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Addresses

THE FINAL TRIUMPH OF SCIENTIFIC MEDICINE.*

NICHOLAS SENN, M.D.
CHICAGO.

"That is to be wise to see not merely that which lies before your feet, but to foresee even those things which are in the womb of futurity."—Terentius.

Nations as well as individuals have their own peculiarities, their customs and habits, their own way of thinking and acting. The most characteristic feature of the American people in the eyes of the old world is the intense concern for the present and a relative disregard for the past and little concern for the future. The typical American concentrates his energies and devotes his time to accomplish what he has undertaken in the shortest possible space of time. We are a nation of intense workers, with little time for after- or forethought. Our country is new, its resources immense and only partially developed, and the possibilities for individual and corporate efforts unlimited. This intense activity, individual, corporate and national, has made our country what it is to-day—the most prosperous in the world, but the time is coming, and it is not far distant, when we shall have reason to regret the lack of after- and forethought.

As a nation and as individuals we have become too intently addicted to the precepts:

"To-day comes only once, and never again returns."
—Schopenhauer.

and

"To-day is ours, we have it here. . . . To the Gods belong to-morrow."—Cowley.

This strenuous life, this intense application to what lies at our feet, is by no means limited to our wide-awake, energetic business men; it has likewise involved the professions, and most especially so the medical. There is no other country, with perhaps the exception of Japan, in which the medical profession has made more rapid strides than in the United States. Without government support, state and private medical schools have been established throughout the country, many of which are on a par, if not superior, to the universities of the old world, which count their age by centuries. Largely through the influence of the medical profession excellent public and private hospitals have been erected in rapid succession in all of our cities for the care of the sick, rich and poor, which furnish an abundance of clinical material and ample facilities for scientific investigations and research work.

Through the munificence of men of wealth a number of laboratories have recently been built and richly endowed, where American talent will cultivate the field of science and contribute its rich harvests year after year to the common fund of knowledge. The great activity of our profession is best shown by the number of medical societies, the large attendance and interest displayed at their meetings. The reorganization of the American Medical Association and the societies, state and county, in affiliation with it, has been instrumental in uniting the medical profession throughout the entire country into one great army of scientific men, intent on maintaining the dignity of the noblest of all professions and to labor in harmony and unity in advancing and perfecting the science and art of medicine. National, sectional, political and social considerations play no part in this great medical community, as all its members have the same objects in view—the uplifting of their high calling and the noble desire to give their clients the best that the present state of our science can offer. It can be said without boasting that the American doctors spend more time and money in attending medical societies and postgraduate courses than those of any other country. We have reason to feel proud of the present status of American medical literature. Some of the very best text-books of to-day on medicine and surgery, and the different specialties, have been written by American authors. We take just pride in THE JOURNAL of the American Medical Association, which in a few years has reached a circulation of over 50,000, and which brings to the physicians every week the newest and the best in the way of current medical literature, to say nothing of the other 150 medical journals, good, mediocre and some of them which are consigned regularly to the waste basket. It is the mass of the regular profession rising in a body and demanding a higher standard of medical education which has been instrumental in forcing some of the lagging medical colleges to raise the requirements for admission, and to extend the time of attendance, and to make provision for the necessary amount of laboratory work and better clinical teaching. It was the mass of the medical profession which deprived the diploma of its power as a license to practice, and which, after many hard struggles, succeeded in instituting a board of medical examiners in each state of the Union, which decides, after a stringent examination, who shall and who shall not be permitted to practice. Those who have passed these examinations in any of our states know what they mean. Many a proud possessor of a diploma of a European university has found the gate of entrance very narrow, and some, to their utmost astonishment and sorrow, closed and securely locked. All these things have been accomplished in a remarkably short time and by the voice and extraordinary action of a hard-working united profession. We had little time to spend in looking backward and far into the future; we expended our vigor and energies on what was immediately before us, and in doing so met the pressing duties of the day;

*The Jerome Cochran Lecture, delivered before the Medical Association of the State of Alabama, April 17, 1907.

much remains to be done, but we can now take a little respite and take a brief retrospective view of what our profession has accomplished in the way of preventive medicine, the crowning triumph of the science and art of medicine.

Confucius said: "Study the past if you would divine the future," and this maxim applies with special force to the subject of this address, "The Final Triumph of Scientific Medicine."

The final triumph of scientific medicine will be the victories of preventive medicine. We glory in what has been accomplished so far in the protection of mankind against disease, but it is a mere beginning, a skirmish preceding a long and continuous campaign, a succession of fierce battles, with the causes of infection and contagious disease, which will ultimately crown with victory the unremitting and unselfish toil of the most beneficent of all professions. The ancient physicians had little or no conception of prophylaxis; their time, talents and energies were devoted almost exclusively in devising ways and means of curing disease. They were imbued with the Shakespearian idea,

"We can not hold mortality's strong hand,"

and were only too willing to admit the truth of the pessimistic precept,

"The lot of man—to suffer and to die."—Pope.

They took it for granted that disease is a necessary evil—a curse to humanity, and grappled with it with such means and remedies as suggested themselves as being antagonistic to the morbid conditions wrought by disease. They were doctors, not sanitarians. From time immemorial the medical profession always has had the welfare and happiness of mankind at heart, but owing to a lack of knowledge concerning the nature and real causes of disease, very little could be expected in the way of prevention. For the same reason the battle with disease was fought in the dark, to the disadvantage of the physicians and the detriment of their patients, so much so that even as late as the time of Benjamin Rush, one of our most famous physicians and one of the signers of the Declaration of Independence, and our first surgeon-general, was led to admit, "We have not multiplied diseases, but we have made them more fatal." This honest confession of the leading physician of our country during the latter part of the eighteenth century, about the time of the birthday of our nation, shows how little had been accomplished up to that time in the way of successful treatment of disease, to say nothing of prophylaxis, which had received but little attention. The successful treatment of disease depends largely on a knowledge of its cause and nature, and preventive medicine almost entirely so. The comparatively new science of bacteriology is the foundation of preventive medicine. All other efforts in this direction were at haphazard and usually fruitless before the microbic origin of disease was made the basis of action.

Let us now consider very briefly to what extent humanity has been benefited by preventive medicine, the cherished child of the medical profession of to-day. I need not tell you that all that has been accomplished in this new field of medical thought and action is the very best proof of the unselfishness of the medical profession and of the humanitarian spirit which actuates the true physician. Doctors earn their daily bread by taking care of the sick, and consequently the lessening of disease by preventive measures necessarily reduces their income, but this does not prevent them from giving their time and energies in efforts to lessen the sum of human suffering by protecting their patrons against preventable diseases. In this respect the medical profession has no equal among other classes of men; it stands solitary and alone as an emblem of genuine charity and unselfishness. Prevention rather than cure has been for some time the aim of scientific progressive physicians. I will now enumerate a few of the preventable diseases and make mention of what has been so far accomplished in warding them off by appropriate treatment or sanitary precautions.

SMALLPOX.

More than a century ago smallpox, one of the most loathsome and fatal of the acute infections and contagious diseases, was shorn of its horrors by vaccination, a boon to humanity which we owe to the immortal Jenner. You are all familiar with the violent opposition which this, the surest of all prophylactic measures, has met at different times and in different localities by the educated and the ignorant, although its value as an absolute preventive against smallpox has been established long ago—a striking proof of the truth that

"Nothing has tended more to retard the advancement of science than the disposition in vulgar minds to villify what they can not comprehend."—Johnson.

With what we know from a long and vast experience of the protective value of vaccination it does seem almost incredible to have now and then an outbreak and spread of smallpox in civilized communities, as compulsory vaccination properly performed ought to have eradicated this disease from the face of the earth half a century ago. Doubters of vaccination as a protective against smallpox ought to inform themselves of the terrible ravages this disease has wrought among the savage races and see the many scarred faces of the survivors. The history of vaccination is a fair sample of the way in which new innovations devised and promulgated for the good of the public are so often misunderstood and opposed.

HYDROPHOBIA.

We are still ignorant of the true nature of this, the most terrible of all diseases. We know it is a microbic disease, but its micro-organism has so far eluded detection. The period of incubation is about six weeks, and the disease is invariably fatal in from three to four days. Treatment is powerless, prevention almost a certainty with Pasteur's inoculations, if resorted to in time and administered by one who is familiar with the method. If Pasteur had done nothing else during his lifetime but to devise and teach his preventive treatment of hydrophobia he would still be one of the greatest benefactors of the human race. The many Pasteur institutes scattered all over the world will remain and continue their humane work until a just law will reach the innumerable miserable disease-spreading curs, and the owners of the comparatively few noble survivors of the canine race will give them the care and attention they need and deserve, when hydrophobia will become an unknown disease.

WOUND INFECTION.

We now come to the preventable diseases, the microbic origin and nature of which are well known. It is in this field of preventive medicine that the science of medicine has achieved during the last two decades the most marvelous results. It was during this short space of time that surgery has undergone a complete revolu-

tion by the discoveries which led to a solution of the mystery of wound infection and its prevention by aseptic precautions and antiseptic treatment of wounds already infected. The discovery of the microbic cause and real nature of inflammation was the first and greatest triumph of scientific medicine, and has contributed more to the prolongation of human life and mitigation of suffering than all previous medical knowledge which had accumulated from the time medicine was first practiced and taught. It raised surgery from a mechanical art to a science, and placed the study and practice of medicine on a rational foundation and unlocked the doors which up to that time had barred the progress of intelligent and effective sanitation. The two distinguished central figures which have inaugurated this new and enlightened era in medicine are Pasteur and Lister, the two men who, to my mind, have conferred a greater benefit on the human race than any other two mortals in the history of the world. These two scientists and investigators have built the foundation for the new temple of scientific medicine and surgery, and in the rearing of which enthusiastic scientists all over the world have taken an active part, the most notable among them being Koch, Ogston, Julius Rosenbach, Klebs, Metchnikoff, Kitasato, Welch, Donovan and Wright. The world is fond of hero worship, and the hero who has slain the largest number on the field of battle and has won the greatest victories is the one whose deeds are immortalized in the annals of history, and whose equestrian statues populate public halls and parks. Every schoolby is familiar with the history of Cæsar, Hannibal and Napoleon, who in the childish mind figure as the greatest heroes of the past, but these heroes won their fame, their victories, their glory, by sacrificing thousands of lives and causing untold suffering and misery—and all for selfish ends. Peace has its heroes and its victories as well as war. The war with disease has been waged for thousands of years, is going on now and will not cease until scientific medicine has won its last victory. Our three greatest heroes in this bitter struggle between science and disease are Pasteur, Lister and Koch, names eminently worthy of being placed highest in the world's hall of fame, for "Great is the victory without bloodshed." These heroes had no selfish motives in accomplishing what they did, as their lives were consecrated to the task of unraveling the mysteries of disease. Their victories were won in the silent laboratories in bloodless battles with the most stubborn and the most bitter enemy of man—disease. Those of you who have practiced your profession for more than thirty years can appreciate what these three pioneers and others who have been working in the same line have done for science and the good of humanity. The new science of bacteriology explained the mystery of wound infection and led the way to its prevention. Those of you who were engaged in the Civil War on either side must remember with horror the fate of the wounded. You tied the bleeding arteries with the well-waxed silk ligature and left one end hanging out of the wound in order to be eliminated later by suppuration and sloughing, a process which only too often gave rise to secondary hemorrhage. Few even of the simplest wounds healed by primary intention. Your hearts rejoiced when you found wounds bathed with so-called laudable pus. You did not know then why so many of the wounds suppurated. You had ample opportunity to study the ravages of hospital gangrene, a disease which since then has disappeared from the face of the earth. You saw pyemia and septicemia in all their ghastly fatal forms. You did not know why that insidious disease, erysipelas, spread from patient to patient and from hospital to hospital. You knew that in all grave cases of gunshot wounds of the limbs the patient's chances of life were better if you performed primary amputation. How all this has been changed since the light of science has shed its rays on the battlefield! Under the aseptic treatment penetrating gunshot wounds of the large joints heal in most instances without any complications and with good functional results. Primary amputation is reserved for the few cases in which the injury is such that gangrene would necessarily follow. Military surgery has resolved itself largely into prophylaxis; the aseptic precautions have taken the place of amputating instruments. In civil practice the blessings of aseptic surgery are even more conspicuous. Aseptic surgery has opened the doors of all large cavities which are now invaded with impunity. It has enlarged the field of operative surgery, and in cases in which the diagnosis is doubtful the knife settles the doubt without endangering the life of the patient. Under aseptic precautions, with the absorbable animal ligature and a good supply of hemostatic forceps, the surgeon now undertakes the most difficult operations with confidence and with the satisfaction of knowing that he is master over the greatest dangers which face the patient—hemorrhage and infection.

PUERPERAL SEPSIS.

That much dreaded disease, puerperal fever, in the form of puerperal sepsis, thrombophlebitis and other local infective processes that so often darkened the lying-in room and claimed so many victims, has been almost completely banished from the list of postpartum complications, since physicians have learned to regard the parturient woman as a surgical case, and have taken the necessary precautions to protect her against infection during and after delivery. We can now understand why this dreaded visitor of the lying-in room was so often introduced by the attending physician or midwife by carrying the infection on the clothing, hands or instruments from house to house. To-day the parturient woman in the hands of the well-trained aseptic obstetrician is safe and may look forward to the impending ordeal with hope and not with fear. The aseptic technic has become the inseparable bond of union between obstetrics and surgery, the success of both arts being based on the same principles of precaution against infection.

TETANUS.

One of the most dreadful of all wound complications is tetanus. It is well known that this disease, so frequently fatal and attended by the most excruciating suffering, is very prone to follow insignificant injuries in which dust or soil is introduced into the wound, as these substances are the most common media which contain the tetanus bacillus or its most resisting spores. The mortality of this disease is appalling; in fact, it may be safely stated that the acute form has so far defied treatment, while the chronic form yields to time and appropriate medication. While the curative treatment so far has proved very unsatisfactory, we are in possession of a reliable prophylactic treatment by means of hypodermic injections of the antitetanic serum, another precious fruit of patient and persistent research work in the vast field of bacteriology. It was at first the ardent hope and sanguine expectation of the medical

profession that this serum would prove curative in the treatment of tetanus, but this hope has been vanquished by a large experience. When I visited the experimental station of the Rudolphianum Hospital in Vienna a few years ago the man who had charge of the animals informed me that a number of the horses kept in the stables had contracted the disease and the serum treatment was promptly carried out, but all of the animals died. The same disappointing results have been recorded in the serum treatment of acute tetanus in man, regardless of the method by which the serum was administered. As a prophylactic the serum treatment has proved eminently successful, and in consequence practitioners who are in charge of patients whose injuries are such that there is a fair probability that tetanus might follow, resort to it in time, and usually succeed in preventing the disease—another great triumph for modern scientific medicine, as prevention is always vastly preferable to cure, and will be the motto of medicine in the future.

MALARIA.

These glimpses of modern surgery suffice to indicate in no hesitating or doubting way how deeply we are indebted to the founders of the new science of bacteriology for the marvelous growth of this branch of the healing art, but when we extend our inquiries a little further and explore the field of medicine we find that bacteriology has wrought wonders here, both in regard to the etiology and treatment of disease, and more especially in preventive medicine. For centuries the antimalarian action of Peruvian bark has been known by physicians and to a considerable extent by the public, and later that of its alkaloids. Nothing was known of the real cause of the disease until its parasite, the plasmodium malariæ, was discovered in the blood of malarial patients by Laveran. Persistent research on the part of many investigators finally traced the infection to certain species of mosquitoes, notably the anopheles. We now can understand what was impossible to explain before—that malaria is prevalent in localities inhabited by this species of mosquito, and during seasons when the mosquitoes are most numerous. We are now in possession of knowledge which enables us to resort to means and remedies calculated to eradicate this disease from mosquito-infected districts. The preventive treatment of malaria is now practiced on a large scale in German East Africa under the direction of Professor Koch. During my sojourn on the east coast of Africa last summer I had an excellent opportunity to observe and study the methods employed. Reasoning from an etiologic standpoint, two methods suggested themselves: (1) The removal or destruction of the carriers of the disease, the anopheles, as recommended by Ross, and (2) the destruction of the plasmodium parasite in the patient's blood by the quinin treatment, proposed by Manson and Koch. Both of these methods were practiced by Professor Ollwig, of Dar-es-Salaam, German East Africa. The war on the mosquito by draining pools of stagnant water and the employment of petroleum proved disappointing and failed in reducing to any appreciable extent the prevalence of malaria. By making blood examinations the persons not afflicted with malaria were next located and subjected to the prophylactic quinin treatment. This part of the work was done chiefly by trained female nurses. Quinin in doses of 15 grains was administered every ninth and tenth day and continued for two months. It was soon found that the time of treatment was not long enough, and it was then extended to two and a half to three months. The drug was administered early in the morning or late in the evening on an empty stomach. The natives, who were at first not in favor of the blood examinations and prophylactic medication, soon became convinced of their necessity and value and submitted themselves willingly to both. As the results were not as prompt as expected, the quinin days were increased to three, and while the two days' treatment left a smaller percentage in which the parasites could be found in the blood at the end of treatment, the three days' treatment improved the results materially, leaving only one-half of 1 per cent. of cases in which some parasites could be found in the blood at the end of treatment. The quinin was administered to adults in tablet form, to children in solution, and experience has shown that the administration in solution has had the best effects, and that way of administering the drug has since been employed exclusively. At present the usual treatment consists in administering every eighth or ninth day 15 grains of quinin in solution on an empty stomach, which is continued until the blood is free from plasmodia; that is, for two to three months. This prophylactic treatment corresponds with that recommended by Manson. Others have recommended smaller and more frequently administered doses. For myself, I am satisfied from my own personal experience in the most dangerous localities, including the east coast of Africa, Central America, Cuba and Porto Rico, that persons who have not suffered from malaria will create a partial, if not complete, immunity by taking daily a 5-grain dose of quinin with the juice of a lemon at least two weeks before exposure to infection and as long as they reside in a malarial district, or, if the residence is a prolonged one, until the drug has produced an immunity to malarial infection. The prophylactic quinin treatment not only protects the individuals thus treated against malaria, but if extended to all the human carriers of the plasmodium will deprive the anopheles of their supply and render them harmless. The future war against malaria will be conducted from two strategic points—mosquito destruction and prophylactic quinin treatment.

TYPHOID FEVER.

Typhoid fever is one of the acute infectious diseases most widely disseminated over the surface of the globe, and yet it must now be classed with the preventable diseases. The prevalence of this disease in a civilized community is a reflection on the civic authorities and more especially on those who are entrusted with the guardianship over the health of the people. Since the discovery of the bacillus of this disease by Eberth we know that infection takes place through the gastrointestinal canal by the ingestion of food and drink contaminated with the bacillus. Sterilization of food and water by heat is the surest safeguard against this disease. Water is the great medium of the bacillus of typhoid fever, outside of the body, and the disease will prevail more or less just as long as the crime of water pollution receives the sanction of governing bodies from the general government down to the officials of the most remote country village. With the present widespread water pollution

> "He who wants the water pure must go to the spring-head."

It behooves the medical profession to keep up the war against water pollution until our inland lakes and streams are as pure as the Creator made them, and it

is then and only then that typhoid fever will lose its grasp on the human race. Until that is accomplished we must ever bear in mind the precept,

"Let the safety of the people be the supreme law."—Cicero.

CHOLERA.

Like typhoid fever, cholera is a water-born disease. From its original breeding-place in the sluggish filthy water of the Ganges River this dreadful scourge has from time to time made excursions to different parts of the world, usually along the routes of travel and commerce in the form of widely-spreading, devastating epidemics. Before Koch discovered the microbic cause of this disease in the shape of the comma bacillus physicians were almost powerless in preventing the spread of these epidemics, and much more so in stamping out the disease, which usually pursued its relentless course until the approach of winter arrested its further progress by the attending cold destroying its microbic cause.

The modern methods of sanitation, strict quarantine and proper attention to the water supply have succeeded in nipping such epidemics in the bud, "whilst bright-eyed Science watches round" (Gray), and we have reason to hope that in the near future coming generations will know cholera only by its name.

YELLOW FEVER.

You who live in the south have become, by sad experience, only too familiar with this frequent and much-dreaded visitor from the ports of Cuba, South and Central America. This scourge of the south has lost its power and you have little to fear from it in the future, since the black mask of this grim visitor has been torn from his face by bacteriologic research.

We have become familiar with the cause, nature and manner of spreading this disease and know how to prevent it. The first positive proof that the *Stegomyia calopus* was the carrier of the infecting agent of yellow fever was given when Carroll, in July, 1900, offered himself for a test experiment with a self-sacrifice worthy of the highest praise. He barely escaped, while Lazear, of the American Commission, and Myers, of Liverpool, lost their lives. You are all familiar with the carefully-conducted experiments of the late Dr. Reed, of the United States Army, which led to results which raised beyond all doubt the direct etiologic relationship between the stegomyia as the carrier of the infecting agent and yellow fever. With such knowledge as a basis for warfare, Colonel Gorgas has succeeded in stamping out the disease in the Canal Zone, and by doing so has furnished the most reliable assurance of the completion in the near future of the greatest task ever undertaken by a single nation—the Panama Canal. Without the intervention of preventive medicine the second attempt of this enormous undertaking would have ended as ignominiously and disastrously as the first. When this new waterway will be open for the commerce of the world it will not be the President of the United States, Congress or the engineers, but Colonel Gorgas who will be entitled to the greeting,

"Hail to the Chief who in triumph advances."—Scott.

as without his wise and effective sanitary intervention the completion of the canal would have remained an idle dream, as the prevalence of tropical diseases presented greater difficulties to the undertaking than the granite backbone of the American continent.

BUBONIC PLAGUE.

The tropics have their attractions as well as their dangers. They are without the great microbe-destroyer, the stern winter of the north, and many diseases which require a tropic soil and tropic heat for the germination and growth of their microbic cause have their geographic limits beyond which they lose their virulence. One of the much dreaded tropic diseases is bubonic plague, which has raged in the form of rapidly-spreading epidemics usually along the highways of travel. Three years ago, while in Bombay, India, I visited the plague hospital and had an opportunity to study thirty-eight cases in all stages of this loathsome disease. Later I visited the Plague Research Laboratory, in which Mr. Haffkine, a Russian scientist, has done such wonderful work in the field of prophylaxis, and who has rendered India such signal service since 1893, first by his prophylactic treatment of cholera by serum inoculations, and later by his discovery of a serum against the plague. In the absence of Mr. Haffkine, Lieut.-Col. W. B. Bannerman, I. M. S., who temporarily filled his place, showed me through the institution. The former residence of the Governor of Bombay at Parel, a beautiful suburb, has been converted into this research laboratory, and the former ballroom is now the place where the anti-plague serum is brewed, and halls and bedrooms where fashion reigned are now occupied by dozens of cages containing animals for experimental use. In a paper presented by Lieut.-Col. Bannerman to the Royal Society of Edinburgh, in 1902, he stated that the serum treatment, in the prevention of the bubonic plague, is reliable and specific in its results. The immunity thus obtained remains throughout the entire epidemic, and has been known to last two years; its exact maximum limits, however, remain undetermined. The culture and serum rooms in this laboratory contain hundreds of flasks filled with serum, protected against contamination by a cotton plug with ends burnt off. The prophylactic treatment consists in making a single hypodermatic injection of from 4 to 5 c.c. of the sterilized culture under the strictest aseptic precautions. All subjects thus treated during the epidemic escaped the disease, even in badly-infected districts. The experience with this serum has reached enormous dimensions and its absolute reliability can no longer be questioned. This favorable experience with Haffkine's serum against the plague in India was repeated in Zanzibar during the last visit of this epidemic. With stringent quarantine regulations and the prophylactic inoculations with Haffkine's serum bubonic plague has lost its terrors as an epidemic disease, and in the course of time will lose its foothold on the tropic soil.

MEDICINE IN THE FUTURE.

Enough has been said of the great victories achieved by scientific medicine in the recent past. Victory has followed victory, and many of the most dreaded diseases have become powerless in the conquest with preventive medicine. The wonderful results obtained by Behring's serum in the treatment of diphtheria is the surest indication that in the future crude drugs must give way to serotherapy in the successful treatment of all acute self-limited infectious diseases. The clientele of the physicians is growing smaller and smaller, but their glory as humanitarians and scientists is rising and will reach the zenith after coming generations of more erudite physicians have conquered and laid at their feet the two worst enemies of mankind—tuberculosis and

cancer. We are confident that tuberculosis in all its forms will soon be forced to retreat, as we know its microbic cause and are familiar with its methods of warfare. We have learned by long experience that the most formidable weapons in fighting this disease are not drugs, but pure air, sunshine and nutritious, easily-digested food. Professor Wright's opsonin treatment, now on trial, holds out much promise and may prove to be what we have been seeking for for centuries—a specific against this disease. But what is vastly more desirable than a specific remedy is the prevention of the disease. We must meet this enemy openly and boldly, as

> "Surely the best way is to meet the enemy in the field, and not wait till he plunders us in our very bedchamber."—Goldsmith.

War, and a bitter war, must be made on the bacillus of tuberculosis and its spores scattered over nearly the entire inhabitable part of the globe. If we could kill or render harmless these germs, lurking everywhere, there would be no need for specifics for the disease. The army of consumptives in this country and elsewhere are sowing these seeds, which retain their vitality for an unknown period of time, and when through the air we breath and with our food and drink find their way into the body of persons susceptible to tuberculosis germinate, multiply and reproduce the disease. Preventive medicine must seek to remove these sources of infection by isolation of consumptives, as far as possible, and by disinfection of the sputum and infected excreta, and by sterilization of contaminated food and drink, and by a well-directed war against dust, so often the vehicle of the bacillus and its spores. The disease about which we know the least, the cause and nature of which have baffled the skill of an army of scientists for centuries to unravel, is cancer. This insidious, treacherous disease is on the increase, both in this country and Europe, and is becoming more and more virulent. It manifests a special predilection for the white races and chooses its victims from among the aged, whose sun of life is nearing the western horizon. In its approach it is stealthy, insidious, and only too often before the victim is aware of its presence it has gained a sure foothold from which it can not be removed by any known kind of medication and is beyond the reach of a successful surgical operation. Scientists had good reasons to suspect the microbic origin of cancer, but so far have failed in proving it. The geographic limitations of cancer, its microscopic structure and behavior in the tissues contravene the parasitic origin, and point rather to an erratic cell growth of the nature of which we know very little, but future investigations from this standpoint may ultimately forge the key which will unlock the mysteries of this, the most stubborn and cruel of all chronic affections. When we once shall succeed in lifting the curtain which hides this foe we will make it more vulnerable to the attacks of the closed columns of the followers of the flag of preventive medicine and the hand-to-hand encounter of individual physicians and surgeons representing curative medicine and surgery.

Preventive medicine is the medicine of the future, and the final triumph of scientific medicine will be the suppression of disease. In this struggle with the causes of disease we need not only the earnest and united support of the medical profession in the front ranks of this movement, but the encouragement and financial aid of the governments, general, state, county, city and village. Sanitation on a large scale to be effective is very costly, but every dollar spent will bring good returns. Hygienic institutes must be established and maintained where young physicians can receive the necessary education and training to prepare themselves for the high and responsible office of sanitary or health commissioner in the different communities. One such institution centrally located and amply endowed would be a greater benefit to the people of the United States than all the Carnegie libraries and the supernumerary half-starved insignificant colleges and academies on which millions of dollars have been lavished and wasted by well-meaning men of wealth. Health officers should be above the mire of politics and should be appointed for their merit, without any regard to their political complexion, and should receive a salary commensurate with their service and social position and should hold their office as long as their work is effective and satisfactory to the community.

If these things were realized a new and much-needed specialty in medicine would be created—scientific sanitation. But to accomplish our final object in public sanitation, means must be provided for popular instruction in hygiene and sanitation in our schools and by popular lectures, in order to reach the mass of the people, and by doing so enlist their interest and secure their cooperation. Nothing would be of more far-reaching value to the laboring man than to be taught how to avoid disease and preserve his health. All great reforms must have a beginning in the household. If we can interest our governments, our people, our educators, and the public press in this great movement of abolishing preventable diseases, we may confidently expect the millennium in medicine in due time, and it will be inaugurated by the final triumph of scientific medicine:

> "Conquer we shall, but we must first contend
> 'Tis not the fight that crowns us, but the end."
> —Herrick.

THE MARCH OF SANITATION.*

WALTER WYMAN, M.D.
Surgeon General of the United States Public Health and Marine-Hospital Service.
WASHINGTON, D. C.

The invitation to deliver an address on this occasion was so great an honor that all other obligations and duties were set aside, and its acceptance seemed imperative. There was an element, also, of genuine pleasure in the thought of revisiting Charleston, so notable for its hospitality, its social and intellectual atmosphere, its beautiful location on the shore of the South Atlantic, and so crowded with historical events of the greatest interest and importance.

It is, indeed, a privilege to address an audience composed of the citizens of this city, the learned faculty of this time honored institution of learning, and this graduating class, now receiving the parchment certificates testifying to their faithful and successful devotion during long years of earnest study, and granting them the right to grapple with human ills, to administer to human suffering.

There is an added interest in the fact that the public service which I represent has in its membership a number of graduates—some eight or ten—of the Medical College of South Carolina. These, without exception,

*Address delivered at the Graduating Exercises of the Medical College of South Carolina, Charleston, S. C., April 24, 1907.

have reflected credit on the public service and their alma mater, and in numerous instances have made such noteworthy contributions to medical science, and have achieved such notable success on the battlefields of epidemics that they reflect more than credit, they add luster to their college and to their calling. To the faculty who trained them the public service is indebted. As a member of the medical profession, whose work is chiefly administrative and does not include the college instruction of students, I can not forbear an expression of the sentiments stirred within me as I face this faculty of instructors. These sentiments are of profound respect for the men who take the youthful aspirants and year after year impart to them the knowledge which fits them for their calling. All honor to the professors and instructors for their unremitting labor! And acknowledgment is due them from the public service when at its examination of candidates for admission it finds men, trained in this college, so thoroughly educated in the science of medicine that they become welcome additions to a public health service which endeavors to maintain the highest standard of professional excellence.

To the members of this newly graduated class congratulations are to be extended, and I desire to give expression to some thoughts growing out of a contemplation of their future activities.

These ideas may be somewhat different from those held in contemplation during student days, but sooner or later they will press to the front and demand consideration. They relate to the sanitary duties incumbent on the physician, growing out of his private practice; and to the civic duties of the physician as well.

When the practitioner, bending over the form of his patient in a private family, discovers that the disease is a contagious one, one of his first thoughts is to prevent other members of the family becoming afflicted with the same disease. He must not only fight the disease, but must fight the contagion. He must prevent the spread of the contagion not only in the one family, but must also prevent its conveyance to other families. He is interested, therefore, in efforts to suppress it altogether, either in the locality or in the city. This means laws and ordinances and their enforcement. And this leads naturally to a participation in the struggle for necessary laws and ordinances. And this further means a justifiable and proper personal interest, and exertion, in local politics to assure the passage of these laws and ordinances.

Next he discovers certain conditions in his own community which require sanitary attention, but which to be adequately met require also that similar conditions in neighboring localities or counties must be likewise met. And this brings him to an appreciation of the wider field of state surveillance in sanitary matters. It demonstrates to him the necessity of the state board of health, which may do for the several communities what no single one of the communities can or should be required to do, but which should be done in the interest of all.

Then, in studying the duties of the state, it will be found that there are fields which no one state can occupy, and that the national government has certain duties with regard to public health, which in the interest of all the states it must recognize, without a violation of the Constitution or infringment on the authority of the state or assumption of burdens which state pride should prevent being turned over to the general government.

A student of these relations will then go a step further and discover that the various nations of the earth have obligations with reference to one another on the same general lines.

The progress of sanitation and hygiene among the nations of the earth in the past five years has been marked and is encouraging. I shall not attempt to give a full list of the various national achievements in the interest of public health, but in England they have reduced the death rate in cities so that in London while the death rate in the latter part of the seventeenth century was 80 per 1,000, and was still 29 per 1,000 in about 1835, it now averages between 17 and 19.

There has been like success in other English cities. There has been great success in the purification of streams. Great advances have been made in tenement house reform. Typhus fever, once so deadly a scourge, has been practically eliminated. In Germany smallpox and typhoid fever have been practically made to disappear. During 1906, in the whole German Empire, there were but 26 cases of smallpox, with 5 deaths, and these cases were largely imported from neighboring countries. In Italy the government has waged a vigorous campaign for the eradication of malaria. Malarial marshes have been drained. Knowledge has been diffused regarding the use of mechanical protection against mosquitoes and the administration of quinin, and the deaths from malaria have been reduced in number from 15,147 in 1890 to 7,753 in the fiscal year of 1906. The extinction of malaria in Italy as an epidemic disease bids fair of accomplishment.

Other sanitary achievements have been recorded in Egypt, in certain portions of China, Japan and in the Philippines.

In the Western Hemisphere Mexico has made sanitary advancement, for which too little credit has been given, but which places that nation among the foremost in sanitary effort. Brazil has shown the effects of an awakening, and the sanitary improvements in Rio Janeiro are such as to excite the admiration of the world. The Central American republics are all showing interest in the matter of sanitation, and reports from the eight fruit ports in British Honduras, Spanish Honduras, Guatemala, Nicaragua, Costa Rica, and Colombia show an awakening of the national governments and the local governments to the necessity of sanitary measures which will eliminate mosquitoes and the yellow fever which they transmit.

In the United States the mystery of the spread of yellow fever has been solved, and the discovery verified by practical demonstration of our ability to suppress the disease, as in New Orleans and other places in the south in 1905.

President Roosevelt, who has always manifested the most encouraging interest in the work of the physician and sanitarian, has stated: "One of the most important items in the work done by our government in Cuba was the work of hygiene, the work of cleaning and disinfecting the cities so as to minimize the chance for yellow fever. This country has never had done for it better work, that is, work that reflected more honor on the country, or for humanity at large, than the work done for it in Cuba." He has expressed like sentiments of encouragement and appreciation of the achievements in the Canal Zone. Smallpox, through the combined efforts of the state and city boards of health and governmental supervision over the production of vaccine, and in spite of the fact that there can be no national

compulsory law for vaccination such as is in force in Germany, is decidedly on the wane. A national pure food law has been enacted by Congress. The movement against tuberculosis on the part of the people, through various organizations, and on the part of the municipal, state and national governments, is being waged with vigor and noticeable effect. The hookworm disease in Porto Rico, which has only recently been discovered to be the cause of so much of the anemia and debility throughout the island, is being successfully attacked and suppressed through the efforts of the insular government.

The enormous extent in territory of the United States and the extraordinary length of its seacoast, both so far in excess of those of other nations, and its character as a republic, provide conditions requiring treatment of sanitary matters in a manner peculiar to itself, but there can be no doubt that the sentiment for sanitation and hygiene is fast becoming a dominant one.

Now the idea is taking root that these nations which are most active in sanitary and hygienic movements are really in some measure dependent on one another for complete success. This idea has found expression in the suggestion of a combined effort to eliminate the yellow fever from the Western Hemisphere, and in the declared necessity of eradicating the disease from all infected ports, requiring a combined or simultaneous effort of all the nations possessing infected ports.

It has found expression, also, in the international official conference at Venice in 1897, supplemented by a like conference in Paris in 1903, as a result of which treaties have been entered into between the principal governments of the world bearing on the treatment of plague and cholera to prevent their extension from one country to another.

Likewise, there was a sanitary convention, official in character, between the republics of the Western Hemisphere held in Washington in 1905. This convention prepared a treaty, almost identical as regards plague and cholera with the treaty following the Paris convention, but with the addition of certain agreements concerning the management of yellow fever in its threatened spread from one country to another. This treaty has been confirmed by nearly all the republics of America.

These international treaties with regard to the management of bubonic plague, cholera and yellow fever demonstrate that the nations of Europe and of America have banded themselves together in certain matters affecting the public health. But it will be observed that the agreements relate almost exclusively to quarantine, with only slight bearing on sanitation. Sanitation is of higher degree than quarantine, and hygiene is superior to both. The obligations of nations toward each other in matters of public health do not end with quarantine. It is morally wrong for any civilized nation to permit the existence within its borders at any place of such insanitary and unhygienic conditions as will favor the propagation of disease which may be carried by commerce or travel to other nations. This view finds some expression in the discussion on hygiene and sanitation at international medical congresses, and particularly in the International Congress of Hygiene and Demography which holds its sessions every three years, and which by act of Congress the President of the United States has been authorized to invite to hold its session in 1909 in the United States.

The idea of international sanitation as an advance on international quarantine was passed on favorably by the Third International Conference of American States, held in Rio Janeiro in 1906. Having been requested to suggest topics for the consideration of the committee on sanitation and quarantine of this conference, I submitted among other propositions the following: "Quarantine and quarantinable diseases, which heretofore have been the subjects of international conventions and agreements, should now be put to one side as having been duly considered and acted upon, and an advance should be made in international deliberations by the consideration of hygiene and sanitation. In other words, the deliberations of international sanitarians should be transferred from ships to the shore."

This suggestion was embodied in the resolutions passed by the Rio conference. These resolutions recommended to the countries represented: "The adoption of measures tending to obtain the sanitation of the cities, and especially of the ports, and to attain as far as possible to a better knowledge and a greater observance of hygienic and sanitary principles."

The resolutions also called on the several countries to instruct their delegates to the next international sanitary convention, which is to be held in Mexico in December, 1907, to "study and solve practical means of rendering effective" the above recommendation.

Thus we see that the subject of sanitation and hygiene has been made one of international official consideration among the republics of the Western Hemisphere. Whether it might not be made also a subject for consideration by the European and Oriental nations is a thought suggested not only by the movement in North and South America, but by the widespread agitation for universal peace or arbitration, disarmament or partial disarmament, and the search which seems to be evident in the proceedings of peace congresses for measures which may be recommended to The Hague tribunal for consideration; all of them, directly or indirectly, suggesting means for the full or partial abolition of war.

The national and international activities in the suppression of disease, in the establishment of sanitary and hygienic conditions, have gone so far that it would seem they might well be taken into account by those seeking a practicable means to divert the energies of nations from war. A plea for universal sanitation and hygiene could well be made on the ground that communicable diseases, which so frequently require national and international intervention, are primarily due to insanitary local conditions. International agreement, or even a declaration of policy, to ameliorate these local conditions so that no people should be allowed to live without sufficiency of pure air and light, pure water and food, good drainage and sewerage, in other words, except under the healthful environments of man, which are his inalienable right—such an agreement would furnish objective employment of national thought and energy and detract from the consideration of armament and war. The policy implied would be the substitution of one energy for another.

That I am not alone in this thought is shown by the following quotation from an editorial of very recent date, as follows: "Peace talkers can do much good by calling attention to the financial side of war, and the possibility of spending for the good of human beings the thousands of millions spent annually in murdering them or in preparing to murder them. The armies now maintained for the purpose of killing men should be changed, first of all, into armies kept up for the purpose of combating the natural enemies of men—for combating fevers, swamps, deserts, quicksands, and dangerous wild beasts."

I will add that surely an international hygienic agreement, which would demand physical operations of great scope and professional and administrative energies of the highest character, would be effective in diverting such operations and energies from the naval and military establishments.

These are some of the ideas which, it seems to me, must force themselves for consideration on sanitarians, physicians, and advanced thinkers in the near future.

But in the meantime members of the medical profession of this country more definitely and immediately must consider sanitation and hygiene as a part of their calling, in view of their relations to the communities and states with which their lives are cast. Preventive medicine must be included in their field of thought and action.

The sanitary awakening in the United States is notable. Its growth may be appreciated when we look back to the conventions called by those interested in these affairs just before and after the Civil War. These conventions were held in New York, Philadelphia, Baltimore and Richmond, and the discussions therein related almost exclusively to maritime quarantine. The great need was of uniformity in the administration of quarantine at the several ports. That uniformity was finally established through the national quarantine act of Feb. 15, 1893. No longer is there heard the complaint that one port is lax in its quarantine administration with the evident purpose of attracting to itself commerce, seeking to avoid the more honestly administered quarantine restraints at neighboring or rival ports. This evil, so exasperating and dangerous in the past, has been so thoroughly done away with that it is almost forgotten.

Out of these quarantine conventions there developed the American Public Health Association, composed of sanitarians in both official and private life, who, as the published transactions will show, have devoted themselves to the subjects of sanitation and hygiene. A leading cry of these sanitarians is the necessity of arousing popular sentiment and diffusing in popular form knowledge concerning the all-important subjects of municipal sanitation and hygiene.

Popular sentiment has been aroused, and a brief review of the field will show that it is stirred at the present time to a degree hitherto unknown.

This is seen partly in the activities of the state boards of health. All the states now have boards of health, or health departments, which each year are increasing in importance and in direct influence on their own people. The legislatures have widened the legal functions of these state boards and are yearly becoming more liberal in their appropriations. True, in some states the appropriations are absolutely niggardly; and it is the duty of the people appreciating the sanitary movement to demand of their legislators more liberal support of the state health organization.

The brief circulars, leaflets, or pamphlets, issued by the state boards of health, for distribution throughout the length and breadth of the state, giving plain directions with regard to the communicable diseases and pointing out the dangers and methods of meeting them, are eloquent witnesses and contributors to the awakening of the public health sentiment.

As to municipalities, one needs but to read the daily papers to be impressed with their increasing activities in the destruction of insanitary dwellings, tenement-house reform, pure-water supply, pure-milk supply, pure food, compulsory notification of communicable diseases and the restraints thrown about the latter to prevent their extension. Throughout the length and breadth of the land, in nearly every state and in many of the cities and towns, there exist auxiliary associations, which are of great benefit in creating public sentiment and upholding the efforts of the authorities.

I need mention only, for illustration, the great number of societies for the suppression of the Great White Plague, tuberculosis. Among other organizations for the suppression of this disease, there may be mentioned as of particular interest the American Federation of Labor. In a well-prepared pamphlet they have set forth the dangers and the care that must be exercised by the individual afflicted with this disease to prevent its conveyance to others, and, as this association has a membership of about two million and extends to every part of the Union, its influence in the suppression of this disease must be great.

The sanitary movements of the present time are answering the question, "Am I my brother's keeper?" and the answer is "Yes!" There is more than a sentimental or religious reason in this answer; there is a practical and self-protecting reason why every portion of the community should be interested in the sanitary welfare of every other portion—why the more prosperous should interest themselves in preventing the less prosperous from living under unhygienic conditions, in insanitary dwellings, or with indifference to the natural laws of health.

There is no part of any community which is not affected by the sanitary condition of every other part. The millionaire, residing in his mansion in the suburbs, the God-given light falling in the windows on every side of his house, with fresh air in abundance, with a filtered water supply, or drinking water imported from some spring of famous purity, and with plumbing and house drainage of the most modern and perfect type, may fancy that he has nothing to fear from the overcrowded rooms of an insanitary tenement house located in some interior court or alley of the slum district of the city; but the connection between these two dwellings is in many ways more direct than he may imagine. It needs but a little sociologic study to appreciate how readily the germ of a disease nurtured in the most poverty-stricken portion of a city may find its way to the residence of the wealthy. I had this fact impressed on me during a period of governmental service in a certain city where at the time of this incident smallpox was prevalent. In one of the city's finest mansions there dwelt a beautiful child, the sole heir of its cultivated and wealthy parents, almost worshipped by them and guarded in every way possible with exceptional jealousy and care. The parents were unwilling to incur even the minimum risk of vaccination and established instead a system of prevention of contact with the outer world, involving a confinement of the child to the house until the disease should have disappeared from the city. But the faithful nurse must needs have rest and recreation, and during one of these periods made a visit to her colored friends in their poor habitation, and brought back to the child the dread disease against which these unusual precautions had been taken, and which terminated its life.

The prosperous, intelligent and ruling members of any community, who are indifferent to the sanitary welfare of the ignorant, or the poor, or even the vicious, are thereby endangering themselves. The disease germ is too often considered a myth or something far away from the healthy and prosperous. It is invisible to the naked

eye, but so is the air we breathe. It is an entity; it has real existence. Though unseen by normal vision, it may be seen at any time through the microscope, now in such common use, the spectacles of science. You have but to put on your spectacles to see the germ. And where will you hunt for it? You will not hunt where the sunlight from Heaven pours in, nor where the fresh pure air from the mountains, seas or plains permeates the habitation; you will not hunt for it in houses where there is pure water and sanitary plumbing, or in localities where there is good drainage, sewerage and paving. These are not the natural haunts of the germ. You will hunt for it successfully where these conditions do not exist—in bad tenements, dark and unventilated rooms, in the hidden dirt and foul collections of untidy places; the parasite of rodents and insects, breeding along with these on unkempt premises. You will find it clinging to old carpets, furniture, wall paper, and bedding in these miserable habitations, or floating with the dust in the air, and clinging also to the persons of the inhabitants of such places. Now, the disease germ is a social climber. Its existence is not stationary. It goes calling, with the old clothes and person of the inhabitant of the foul den, who surely will visit friends less degraded, and these have friends of higher degree. So that, slowly or rapidly as the case may be, the germ struggles upward and is carried to the top.

This shows the necessity of the absolute elimination of the slums in every city. As I have previously declared, there is no adequate reason why slums should exist anywhere, and by slums I mean places where, through bad drainage, imperfect sewerage, inadequate air space, lack of pure water, and lack of sunlight, human beings are subject to disease and crime inducing conditions.

The existence of slums in a city is that city's fault; not its misfortune. Our ambition should be a slumless country, and, as this means simply municipal cleanliness and decency, there can be no good reason why it should not be brought about. The chief pride of a city should not be its boulevards and handsome buildings, but that nowhere within its boundaries can be found slum conditions as just described.

Not only thus will disease be suppressed, but there will be encouraged the development of individual health and power. It would mean a greater average of mental aptitude for work in the higher fields of human activity, in all the arts and sciences. Under more perfect sanitary environments we live longer, we live better; our energies, physical and mental, are stronger, and better fit us for entering on a higher plane of living. There is better opportunity for greater culture and refinement, greater familiarity with the higher laws of life, greater ability to comprehend our spiritual being and wrest from the unknown those higher principles of existence toward which we are now groping with unexplained instinct.

Man, after the fall, was at first chiefly animal; next he gained mentality, and now he is reaching forward to what, for a better term, we may call spirituality, and which is so often expressed in the term "uplifting of the human race" by those who plead for human advancement.

Thus it will be seen that the principles of preventive medicine apply universally. All are interested in them, from the highest to the lowest, no matter what their calling. Physicians are the natural agents of preventive medicine, but there are other natural agents. There are the engineers, expert in sanitary works; lawyers, who have sanitary wisdom; philanthropists, sometimes misguided in their efforts, but helpful. Then there are the clergy and the religious denominations. These have great opportunities, but too often miss the mark.

The clergy and their various denominational societies could be much more effective than they are in bringing about improved conditions. Their opportunities are exceptional, but their operations, while helpful to a degree and worthy of commendation, too often fall short and fail to grapple with the real needs. Their benefits are but temporary and too often by their palliative character result in a neglect of more radical and basic treatment. I refer particularly to the work that is done under the name of charity. Charity, as it is ordinarily understood, is insufficient and temporizes with the real difficulty. The charity enjoined by scripture, it seems to me, is charity of the mind and disposition rather than physical charities. "Charity covereth a multitude of sins," but it does not cover a multitude of dirt. Much of the physical charity of to-day is but the individual or corporate atonement for the shortcomings of the community. The best physical charity is the establishment and enforcement of proper sanitary laws. The charity that limits its activity to supplying food, or clothing, or heat to the poor, and extending sympathy and words of encouragement, is not enough. Let the devotee go further; let him ask why there is allowed to exist within the city such a habitation, where the sun never enters and light scarce permeates; where ventilation is unprovided, and the air is vitiated by overcrowding; where there is no sewer connection, and where the surface drainage round about runs to the cellar or first floor, adding dampness to other bad conditions. Let him ask: "Is there no city ordinance that forbids such conditions? If there is, why is it not enforced?" Let him say: "I will inquire, and if the purse or other influence of some crafty owner is the cause of this evasion of the law I will call attention to it and also to the official who is neglecting his duty. Or, if there is no violation of the law, with my friends I will form a coalition and have elected to the city council some one who will introduce a proper ordinance, and I will help arouse a public sentiment that will force it through."

Put your pity, your sympathy, your indignation, your enthusiasm, your charity, into laws or ordinances. Enthusiasm is ephemeral; determination is weakened by time and events. But if all these are translated into written statutes they are preserved and are continuously operative.

The Earl of Stamford, in a presidential address before a sanitary congress at Bradford, England, in 1903, made the following statement: "More and more is it becoming clear that indiscriminate public and private charities can never for all their abundance mitigate a tithe of the evil, misery and pauperism—incidents of the accumulation of the very wealth out of which those charities are supported. In spite of all our efforts at charitable relief—nay, rather because of them—the evil increases and individual attempts to arrest the rising tide become futile. Before our eyes spread the depopulated countrysides, and into our cities in increasing crowds pour the men and women who were once and ever should be the backbone and glory of the nation, but who now go to swell the ranks of the unemployed and to become the victims of the city slums. For these and all the other cognate evils of the day our eyes turn for salvation and help to sanitation, and Lord Beaconsfield's aphorism, *Sanitas, sanitatum, omnia sanitas,*

once lightly regarded or derided, has become a mighty and accepted truth."

How wide, then, is the field of thought and action of the sanitarian! He delves into the material problems connected with the daily life of the poorest of the community, and his mind is occupied with constructive efforts on the part of his state, his country, and of all nations. He must have his eye on a standard set on the highest pinnacle, but must beware of utopian measures. He should remember that a law or measure which seems entirely impracticable to-day may appear practicable to-morrow. And he should have the sound judgment which will make him withhold placing any stone in the sanitary structure till the stone below has been firmly fixed. His mission is alike to keep out disease and to eliminate its cause; as an ally or agent of law and government to spread a net and hold it firm to catch and throw back the vicious and diseased in the great wave of immigration as it breaks on our shores; to lay the hand of healthful restraint on commerce for its own and the public good; to check the merchant or manufacturer when his absorbing greed for gain makes him ready to risk the lives of hundreds; to oppose the lawyer when by a legal twist in behalf of the individual he seeks to force a way around the sanitary barrier erected for the common safety; to force the slow comprehension of legislators; to prick the tardy conscience of the doctor with the needle of the law; to sweep from the path the sentimental obstruction of philanthropic visionaries; and to spread among the people the knowledge so necessary for their own welfare.

In his mission he must bear in mind the old Latin aphorism, *"Palma non sine pulvere."* But he will find compensation in that other aphorism, *"Labor ipse voluptas"*—in the consciousness of the nobility of his efforts his labor will itself prove a pleasure.

Original Articles

EXPLORATION AND DECAPSULATION OF THE OTHER KIDNEY BEFORE COMPLETING A NEPHRECTOMY.*

GEORGE M. EDEBOHLS, M.D.
NEW YORK.

In recent years an enormous amount of painstaking scientific investigation and persistent, praiseworthy effort have been expended on the part of such masters as Koranyi, Kümmell, Casper, Israel, Rovsing, their assistants, and many others, with a view to finding and elaborating a reliable method of determining the functional activity or possibilities of each kidney separately, or of both kidneys combined, in advance of a contemplated or possible nephrectomy. The result of all this investigation and effort has been to add one after another to the already long and still growing list of so-called functional tests. Yet despite the fact that every recent writer on the subject, with or without personal experience in the matter, feels himself called on to discuss at greater or less length all and sundry of the various functional tests of which he may have heard or read, it can not be said that anything even approaching a consensus of opinion has been reached. On the contrary so far from this being the case, we find the masters themselves at sea and divided in the matter. Some of them, while strenuously upholding each the utility of this or that method favorite with himself, deny all or much practical value to the methods employed by their confrères. Others, like Israel and Rovsing, for example, deny all practical value to any of the modern functional tests, the latter falling back on the only method that has, to a certain extent, stood the test of time and experience, namely, the determination of the daily output of urea. Yet, in spite of the apparently discouraging present situation, the hope appears to be justified that the prodigious efforts put forth in the attempts to solve the problem will not have been expended in vain, but will result in giving us, at an early date, a practical, satisfactory and generally acceptable method of determining the amount of work which we can count on any given kidney to perform.

Such knowledge is especially needed and becomes of vital importance on the eve of a contemplated nephrectomy. Is there a second kidney and, if so, is it in condition to take up and to carry on unaided, to the full extent required, the elimination of poisonous waste products which can pass out of the system only through the kidneys, and a failure to eliminate which puts an end to life?

In the present state of our science and art, the method of procedure introduced by me several years prior to the advent of the modern functional tests, still constitutes our main reliance and ultimate resource. This method, which I first practiced in 1894 and advocated in a paper[1] on "The Other Kidney in Contemplated Nephrectomy," consists in exposing and examining, through a second lumbar incision, the fellow kidney before completing an otherwise indicated nephrectomy.

The routine procedure which I have practiced in all my nephrectomies for the past ten years or more, consists in first cutting down on and thoroughly exploring the kidney that may require removal. A vital and essential part of such exploration consists in not disturbing in any way the vital connections of the organ at its root, the renal vessels and ureter. Should such exploration of the kidney confirm the necessity and indication for its removal, the kidney is for the present replaced and a second lumbar incision, for exploration of the other kidney, is made on the opposite side of the body. If the second kidney be found in good condition, or in condition sufficiently good to sustain life, it is replaced and the second wound is closed. Returning now to the first incision, the diseased kidney is delivered and removed. Should exploration, on the other hand, show advanced disease of the second kidney, or that nothing would be gained by the removal of either kidney, then both kidneys are replaced in the body, either closing both wounds or treating either or both kidneys by such conservative measures—decapsulation, nephrotomy, resection, drainage, etc.—as may be indicated under the circumstances.

This method of procedure in nephrectomy was, as above pointed out, first practiced and published by me, although Rovsing[2] mistakenly claims priority in the matter more than six years after my publication. Rovsing bases his claim on an operation performed by him in 1894. In this case, one of renal hematuria, the healthy right kidney was first cut down on as the result of a mistake in diagnosis, necessitating a second incision for removal of the diseased left kidney. The original error of diagnosis, therefore, necessitated the sec-

* Read at a joint meeting of the American Gynecological Society and the American Association of Genito-urinary Surgeons, Washington, May 9, 1907.

1. Ann. of Surgery, 1898, xxvii, 425-435.
2. Arch. f. klin. Chir., 1904-5, lxxv, 867-895.

ond operation, quite a different matter from an operation of selection performed on the second kidney with a view to determining whether the kidney first exposed can be safely removed. Nor do any of Rovsing's writings between 1894 and 1904, although many of them deal with nephrectomy as such and detail cases of nephrectomy at great length, contain any mention whatsoever of the procedure under discussion.

The second lumbar incision for exploration of the other kidney has three distinct purposes. In the first place, it gives absolutely positive information as to the existence or non-existence of a second kidney; in the next place, it enables the surgeon to determine the condition of that kidney; and lastly, it places him in a position to decapsulate the remaining kidney. The advantages of the latter procedure will be commented on further on.

The existence of a second kidney is of vital importance in nephrectomy. A number of cases are on record in which a patient's only kidney was removed, with the inevitable result. In addition to the recorded cases, a number of unpublished cases may be assumed to exist; I have personal knowledge of at least three such. And it must be stated emphatically that no method of examination at our command, short of exploratory incision, can give absolute and indisputable certainty of the existence of the two kidneys. Even catheterization of both ureters may deceive us on this point, as illustrated in the case presently to be related.

I have operated in all on three patients possessing, as determined by cutting exploration, but one kidney each. In two of the cases, the operation contemplated was not nephrectomy, and these two patients were therefore safe from the possible disaster of removal of their only kidney. Not so with the third patient, whose life was spared by virtue of the second exploratory incision, and whose story I will briefly outline:

CASE.—N. J., a married woman aged 35, came under my care in November, 1902, with pyuria, febrile attacks and a tumor in the right flank diagnosed as hydronephrosis affecting a movable right kidney. Cystoscopy showed two urethral orifices presenting no marked differences in appearance. On account of the pyuria, catheterization of the ureters was not performed at this examination, from dread of possibly infecting the presumably healthy left kidney.

Fixation of the loose hydronephrotic right kidney, performed on Nov. 10, 1902, afforded but temporary relief. Nephrotomy was next tried on Jan. 5, 1903; a large quantity of pus was evacuated and continued drainage was established. About 720 c.c. of urine drained away daily through the lumbar wound, while about 480 c.c. were passed daily *per urethram*. The latter amount was assumed—incorrectly, as was proven later—to come from the left kidney.

With the closing of the wound the old symptoms returned and, with the concurrence of a consultant, nephrectomy was considered indicated and was attempted on Jan. 19, 1903. The right kidney was fully exposed and freed from its connections except at the root, where the renal vessels and ureter were left intact. The kidney being temporarily replaced, a second incision was made over the left lumbar region. Search high and low, the peritoneum being freely opened to facilitate such search, failed to find a second kidney. The left wound was closed and the right kidney was freely incised for drainage, which was maintained for some six weeks, at the end of which time the wound closed spontaneously and permanently. With the exception of a very moderate amount of pus in the urine the patient is well to-day, more than four years after the operation.

The existence of two ureteral orifices with but one kidney seemed to call for explanation and certainly piqued curiosity. Catheterization of both ureters was performed some time after the operation when the patient was again up and about. The right catheter passed freely up the right ureter to the kidney and yielded urine identical in composition with that obtained from the bladder. The left ureter was pervious to the catheter for some 20 centimeters, at which point the further progress of the instrument was arrested. Not a drop of urine came from the catheter, although the latter was allowed to remain some twenty minutes.

The case, therefore, was one of absence of the left kidney and the upper end of the left ureter, with presence of 20 centimeters of the bladder end of the left ureter. Were the absence of the left kidney not established beyond question, arrest of the ureteral catheter at 20 centimeters from the bladder might be mistakenly interpreted as due to stricture of the ureter at that point, and not as demonstrating the absence of the corresponding kidney. In a similar manner, catheterization of both ureters in a case of solitary kidney with two ureters would fail to demonstrate the absence of one kidney. For any surgeon, therefore, depending on any and all means, short of direct cutting exploration, for determining the presence of two kidneys, the fatal mistake of removing a patient's only kidney is still among the possibilities.

Inspection and palpation, aided on rare occasions by exploratory puncture, of a kidney at the bottom of an incision, or, better still, when delivered into the wound, will enable all but the veriest tyro to determine the presence or absence of gross lesions, such as tuberculosis, abscesses, stones and tumors. If both kidneys be found affected with tuberculosis, advanced purulent degeneration, or tumor, nothing will be gained by removing either kidney, and a nephrectomy possibly contemplated at the beginning of an operation should be abandoned. If stones be found in both kidneys, it is usually the best procedure to remove the stones from both organs, draining or not as may be indicated.

A different situation arises when it comes to the recognition of the finer structural changes which may affect a kidney. But even here it is, for the purposes of the surgeon, mainly a question of the extent and degree of such changes, and these, I maintain, can be readily appreciated after some experience in the examination of kidneys during life. It is not difficult—nay, it is very easy—to recognize advanced fatty and waxy degenerations, interstitial and other varieties of nephritis without the requirements demanded by the pathologist of splitting the kidney from end to end and through its entire thickness. If aid akin to this be needed, the surgeon may remove a small piece of kidney tissue, examination of a frozen section of which can be made on the spot in a few minutes by a competent pathologist. Pending the decision of the pathologist, the surgeon may occupy himself with attention to necessary details of operation. Generally, however, if not always, the surgeon of sufficient experience in gross pathology will be able to decide from macroscopic appearances alone whether or not a given kidney is in sufficiently good condition to take up the burden imposed on it by the removal of its fellow.

Two good and sufficient reasons for exploration of the other kidney in contemplated nephrectomy have been advanced and discussed. A third reason or indication for exposure of the remaining kidney in nephrectomy has, within a more recent period, arisen in my practice. I refer to decapsulation of the remaining kidney for the purpose of preventing or lessening the liability to death from renal insufficiency, the so-called renal death. As one result of my work in the surgical treatment of

nephritis, I have learned that two effects of renal decapsulation may be regarded as practically invariable and constant. First, renal decapsulation invariably and at once increases the daily urea output of the kidney or kidneys; and second, renal decapsulation enables any kidney to do the best work possible for that particular kidney to perform. Both these results act directly to prevent a renal death. And, as a matter of fact, I have had no renal deaths in my nephrectomies of the past seven years, during which I have consistently practiced decapsulation of the remaining kidney.

There can be but two possible objections advanced to the routine practice of exploration and decapsulation of the remaining kidney when performing nephrectomy, one objection partly including the other. These are increased risk to life and undue length of time required for operation. As regards increased risk to life, the objection is not valid; for it is to prevent deaths due to absence of a second kidney, due to want of knowledge of its condition, and due to its inability to take up the burden of excretion necessary to maintain life, that exploration and decapsulation of the remaining kidney are advocated.

Operations on both kidneys at one sitting are no longer uncommon. My personal experience in renal surgery embraces 688 operations performed on one or both kidneys of 460 patients. In 232 of these patients only one kidney was operated on; in 228 patients operation was performed on both kidneys at one and the same sitting. In the earlier years of my surgical career simultaneous operation on both kidneys was the exception; in later years it has become almost the rule.

With good technic and proper posturing and handling of the patient during operation, exploration and decapsulation of the remaining kidney should not add more than from ten to twenty minutes to the time required for a nephrectomy. The disadvantages of a slightly prolonged operation are more than counterbalanced by the vital advantages gained for the patient in other directions.

In conclusion, and based on the foregoing, I would respectfully advance the proposition that no nephrectomy should be completed without examination and decapsulation of the remaining kidney.

ERYTHROMELALGIA.

A STUDY OF SEVENTY CASES REPORTED IN THE LITERATURE.

IRVING WILSON VOORHEES, M.S., M.D.
NEW YORK CITY.

As early as 1843 Graves reported two cases of "a painful disease of the feet" to which he did not venture to assign a name. The subject seems to have gained little or no attention, for a careful search of the literature fails to disclose any mention of the symptoms described by Graves until the year 1872, when Dr. S. Weir Mitchell made a preliminary statement of the same phenomena, which was published in the *Medical Times* of Philadelphia. This likewise received little notice until 1878, when Dr. Mitchell wrote a formal monograph on "A Rare Vasomotor Neurosis of the Extremities,"[1] which, for purity of diction and incisiveness of style, has seldom been equaled in medical literature. As a model of careful and painstaking study it is to be recommended to all who attempt the description of clinical observations. In this essay sixteen cases are collected, some of which, however, are not typical examples of erythromelalgia, but are exhibited in order to show points of differential diagnosis. Without giving a specific definition of the term, which is made up of three Greek words signifying redness, pain and limb, Mitchell notes four points that distinguish erythromelalgia from any similar disease. These are: 1, pain or ache in the hand or foot, of slow onset, burning in character, becoming gradually worse; 2, flushing of the skin during exertion or when the part is held in a dependent position; 3, progress of these symptoms with occasional periods of freedom from pain; 4, the resistance of all forms of treatment.

While still an undergraduate in medicine my attention was called to a case of erythromelalgia[2] of a type so distressing and so hopeless that both my sympathy and interest were strongly enlisted, and since that time I have been constantly on the lookout for painful disorders of the extremities. However, I have seen only two other cases which possessed the constant characteristics of this disease. Both of them were dispensary patients, and, as they returned but once following the initial visit and could not subsequently be found, I did not secure the data necessary to make a report of any value. I am told, nevertheless, that specialists in nervous disorders are accustomed to see from one to three cases in each year. In any event it is now quite certain that the disorder is much more prevalent than the early investigators had reason to believe, and I was surprised to find such a volume of literature bearing on the subject, not only in English, German, French and Italian, but also in Russian and Hungarian, lack of familiarity with which tongues makes the adequate review of the recorded observations a difficult one. Although I have examined seventy distinct reports, I am by no means sure that this could not be increased to a hundred if it were possible to include those written in unfamiliar languages, and I am sure that even this number is not at all indicative of the frequency of the malady, owing to the difficulty which observers have found in following the cases to an outcome which would permit of careful analysis and description.

In considering the etiology of erythromelalgia there are two hypotheses, each of which claims for itself a full quota of ardent and worthy supporters. The first of these states that *the disease is primarily resident in the nervous system,* either in the cerebrospinal axis or in the peripheral nerves and their terminal arborizations. In this classification there is some question as to where we should place the sympathetic system, since the latter is in a sense both central and peripheral. Arbitrarily, however, we may consider it under the central heading. The second hypothesis is that *the disease is primarily an affection of the vascular system* with secondary nervous manifestations.

In Dr. Mitchell's first study of the affection he inclined very strongly to the opinion that the lesion was to be found somewhere in the brain or spinal cord, and, since the symptoms are so often exhibited in symmetrical halves of the body, it was quite natural to expect some pathologic change in the latter structure rather than in the former.

In a very few cases this has been found, but certainly not in a sufficient number to make it of value in assigning a definite cause to the spinal axis. Lannois and Parot[3] have attempted to make this hypothesis tenable.

1. Am. Jour. Med. Sci., July, 1878.

2. Med. News, October, 1904.
3. Rev. de Med. de Paris, xxiii, 7.

Their recorded conclusions follow on the study of one case in which the autopsy was especially directed to a minute examination of the central nervous system. Very little is said of the general arterial findings, and nothing as to the possible sclerosis and degeneration at the local point affected. A destruction of "centers" in the cord was well marked in this case, notably in the column of Clark and in certain bundles of the anterior horn, but there was scarcely a basis for the conclusion which can be best stated by direct citation:

En somme, on peut envisager l'affection comme une lesion de certain centres medullaires (tractus intermedio-lateralis, et le groupe basal posterieur) conditionné souvent par l'arteriosclerose.

Since the publication of that thesis we have learned, through the patient investigation of various physiologists both in this country and abroad, something of the anatomy and function of the sympathetic system—a subject much neglected because of the difficulty in studying its complex relationships. It is altogether possible that further researches will explain many of the phenomena of internal secretion, a matter of such vital importance to the welfare of the economy, and also that we may be enabled to draw some interesting conclusions regarding those disorders, which, for want of knowledge, we are pleased to speak of as "functional."

The experiments of Claude Bernard determined beyond doubt that the blood vessels are controlled through the sympathetic system, and that their proper functioning is largely dependent on a balance between the vaso-dilators and vaso-constrictors. The vaso-constrictor center in the bulb is always in a state of tonus, for if the cord is cut and the vaso-constrictor force supplying the blood vessels is thus removed marked dilatation is noted.[4]

Thompson, Wertheimer, Bancroft and others have carefully studied the vaso-motor nerves in the dog. They find that the limbs receive these nerves by way of the spinal cord from the second dorsal to the third lumbar segment; that those to the fore-foot pass through the stellate ganglion, while those to the hind-foot are connected with nerve cells in the sixth and seventh lumbar, and in the first and possibly the second and third sacral ganglia; and that after pursuing a tortuous course they are finally distributed to the media of both arteries and veins. Although these nervi vasorum are essentially motor in function, it has not been proven that they can not convey sensory impressions. Certain it is that they can be excited reflexly by afferent impulses from the blood vessels themselves, or from the end-organs of sensory nerves in general. This was shown by Heger, who injected nitrate of silver into the peripheral end of the crural artery in a rabbit and obtained a rise of general blood-pressure with a subsequent fall, and at times even a primary fall. It is probable that afferent impulses were thus set up in the blood vessels and transmitted through the sciatic nerve to the vaso-motor centers. The reflex constriction or dilatation appears usually in the vascular area from which the afferent impulses arise. In the light of this knowledge, therefore, it is not difficult to suppose that the dilatation or contraction may be set up by some excitant arising in the body itself as a form of faulty metabolism, or that this excitant is capable of producing pathologic changes in the tissues of the extremities, which changes may in turn bring about a mechanical stimulation of the nerve elements producing the well-known symptoms of pain and dilatation or contraction.

Some observers prefer to ascribe to all diseases of this type a distinctly neuritic origin, an ascending neuritis dependent on some previously existing disease. For example, we have the diatheses of gout, rheumatism or diabetes, the poison of syphilis, and the degenerative changes produced by lead, any one of which causes is capable of producing a well-marked neuritis.

Starr in his "Organic Nervous Diseases" describes a case of erythromelalgia accompanying gout, and seems inclined to the opinion that the disease was of neuritic origin dependent on the toxins of gout circulating in the blood. This theory would scarcely hold, however, if we are to depend on the pathologic findings, in many of which no changes in the nerves can be found.

The effect of cold on the symptoms may throw some light on the etiology. In each of the three cases I have seen there was a history of frost bite; may there not be a resultant productive inflammation from this accident that can produce marked sclerotic changes such as are found in the arterial walls at autopsy? Following on a study of gangrene in a human limb frozen by accident, von Manteuffel[5] conceived the idea that the arteriosclerosis which he found was a secondary remote result of cold. Accordingly, he froze the legs of several guinea-pigs by spraying them with ether and learned that he could reproduce the anatomic findings of his clinical study. The vessels exhibited the typical lesions of arteriosclerosis.

Unfortunately there have been very few postmortem examinations in persons afflicted with erythromelalgia. Up to the year 1904 the only anatomic findings of any importance had been published by S. Auerbach, and these were not complete enough to be entirely satisfactory. However, it had been noticed that the changes were chiefly those of an obliterating endarteritis without special evidence of any kind in the accompanying nerves or end-plates. H. B. Shaw[6] in 1903 gave the results for three cases. In the first there was thickening of the intima irregularly disposed in both internal and external plantar arteries of the diseased foot. The venæ comites were almost occluded by clots, and marked canalization was present. Dorsal arteries and veins of the member showed no change. The nerves of the entire foot were normal. In his second case, a thumb, both arteries and veins showed thickening of the intima. There were likewise the same conditions in the ulnar artery, in the deep palmar arch, and *comes nervi mediani*. The nerves were normal. His third case was a right hand; the digital arteries of the fingers were slightly thickened and the thumb showed great thickening of the intima of the vessels. There was some change also in the ulnar artery, but more in the radial. The nerves here were also normal.

From these observations Shaw concludes: "As a result of consideration of these cases it would appear that erythromelalgia when occurring independently of central nervous changes is associated with one morbid picture, that of local vascular change."

Hamilton[7] has made an exceedingly careful study of his case—a right foot. He found the intima of the vessels from the amputated toe little thickened, but the media much so. In the large arteries both struc-

4. Porter (W. T.): Am. Text-book Physiol., 1900, i, 201.

5. Centrlb. f. Chir. (Leipsic), Jan. 18, 1902.
6. Brit. Med. Jour., March 21, 1903.
7. Jour. of Nerv. and Ment. Dis., April, 1904.

tures showed hypertrophy associated with thrombi, in which there was beginning organization. The elastic lamina was increased. The nerves contained an increased amount of connective tissue both in the sheath and bundles of fibers. The cord showed slight degeneration of its arteries, but nothing further. The brain was normal.

Death in the majority of all the cases in the literature was due to some vascular condition such as apoplexy or heart failure.

It seems scarcely necessary to describe in detail the symptoms of this disease, as they are similar in all cases and have been set down by various writers with a considerable degree of accuracy. Naturally enough they are chiefly local and consist of the severe pain, redness, swelling, puffiness and hyperidrosis, all of which are worse when the part is held so that gravity aids in the congestion. Trophic changes are described by some, but were not present in the cases I have seen. Some interest attaches to the marked increase in systemic blood pressure. There is a hypertonicity throughout the vessels of the body which seldom falls below 200 mm. of mercury as measured on the Riva-Rocci instrument. In Weir Mitchell's third case all pain disappeared during a severe attack of dysentery. He does not state whether it recurred with a recovery from this interjected malady, but it is an interesting observation as bearing on the possibly direct relationship of the pain to the tension within the arteries. The pain is also markedly affected by the nervous condition of the patient, any excitement or worry producing a paroxysm almost immediately. Hence these patients demand for themselves absolute quiet and will lie motionless for hours, fearful lest any sudden external influence, even such as moving about in bed, may bring on an attack. In this connection it is interesting to note that paroxysms of angina pectoris are likewise brought on by any influence that tends to disturb the mental equilibrium, and it was a frequent saying of the celebrated John Hunter, who died in an attack of angina, that his life was in the hands of any rascal who cared to annoy or tease him.

Gastric and intestinal neuroses are frequently associated with erythromelalgia, and the belching of a large quantity of gas from the stomach is in some cases a sure omen that a vascular storm is approaching.

The diagnosis of erythromelalgia is not difficult if one gets a clear clinical picture fixed in the mind. The history is of great importance in this respect, especially as to the date of appearance and exact location of the initial tingling and itching sensations. With few exceptions these are first felt on the plantar or palmar surfaces. In the foot the ball of the great toe is likely to be the seat, and in the hand the terminal phalanx of an index finger. One should guard against a diagnosis of frost-bite or tightly-fitting shoes; for the intelligent patient is usually aware of these conditions if present, and if not present does not like to have them enforced on him by the medical attendant who is inclined to make light of the matter. Gout, rheumatism, syphilis and the tender toes of typhoid should offer no difficulty, for the lesions produced by them are quite dissimilar from those seen in Weir Mitchell's disease. A condition known as acroparesthesia, first described by Nothnagel in 1867, may offer some difficulty in the early stages of the affection, for the sensations are quite like. The course in the latter is, however, not progressive, and the pain is an unimportant feature. It is more common in females, which is not true of erythromelalgia, and there are likely to be other symptoms more or less neurasthenic in type.

Angio-neurotic edema has been confused with it, but it is seldom or never found in the digits, and its characteristics are those of a wheal or welt rather than that of a blotch of red ink. Moreover, the local lesions are not tender to pressure.

The literature contains many instances of associated conditions such as acromegaly, brain tumor, hemorrhagic retinitis, hemiplegia and angina pectoris, and there is one instance, said to be of hysterical origin, associated with symptoms of Raynaud's disease that was cured by hypnosis.

Gerrard[8] has reported what he thought to be an atypical form to which he gave the name of erythromelalgia tropica. It was observed among Malay laborers who had previously suffered from malaria, and he suggests that it "may be a neuritis of malarial origin." The sufferers described sensations of tingling and numbness, with burning pain in the soles of the feet, but nothing is said of the toes. He noticed no "flushings" or "vertiginous" attacks and is not sure about swelling and redness. The onset was usually acute, the shortest being of three days and the longest of three months duration when first seen. He thinks that there is a possibility of plantar cellulitis accounting for the symptoms, for the natives work in shifts which expose the bare feet to the cold morning damp and to the terrific heat of midday and late afternoon. There is scarcely evidence enough to consider these cases as belonging to the type described by Mitchell.

All clinicians are fairly agreed that the treatment of erythromelalgia has been for the most part a failure. At least it can be little more than palliative owing to the constantly progressive tendency of the affection. The management must depend on the skill and resourcefulness of the physician in meeting every detail, not only as it arises but as it is likely to arise. He should be thoroughly acquainted with the patient's constitutional tendencies and should possess an accurate knowledge of the physical signs displayed by each organ, even to a weekly inspection of the eye grounds, in which a warning of an impending change in the course of the disease is so often first manifested. Especial attention should be directed to the associated arteriosclerosis, which, even if it be impossible to arrest its progress, can be so managed that a fatal hemorrhage may be delayed for years. While under active treatment for the local conditions, chief of which is the severe pain, the patient should be kept in bed with the part elevated. If a foot is involved a suitable bed-rest should be provided to keep the bed clothing from coming into contact with the sensitive member. Active employment of the rest treatment and well-directed effort toward the securing of mental equipoise will do much in warding off the paroxysms. As hygienic measures the use of spinal douching and manual massage are to be strongly recommended, especially when sleep is difficult to secure. The effect on the patient is one of euphoria, and he often dozes off into a few hours sleep, from which he awakes greatly refreshed.

The diet is such as common sense would dictate; all hearty foods and especially the red meats should be prohibited. Urinary analysis will be of service in determining the kind and quantity of the food most desir-

8. Dublin Med. Jour., September, 1904.

able. If gastric indigestion is present there may be some difficulty in providing food that shall be nutritious and at the same time digestible. Peptonized food and experimentation with the many prepared products on the market may help to solve the problem. Above all it must be remembered that the patient's general health should be kept to the highest possible point, as the paroxysms are very wearing and each attack uses up a great deal of reserve energy.

Drugs are notoriously unsatisfactory in this disease. However, J. E. Morgan claims a cure from the hypodermatic use of morphin and atropin. It is a good rule to avoid morphin as long as it can possibly be done, but its use will certainly be necessary at some time during the course of the disease. The case which I have reported never received more than 5/8 gr. in the 24 hours during a siege of 5 years, but she contracted the habit and it was only with difficulty that this was overcome. I hope at some future time to make further observations on the use of the fluid extract of ergot in this affection. Given in dram doses three times a day it certainly relieved the symptoms quite markedly, but as the patient died in an apoplectic seizure I have never felt quite sure as to the part played by the ergot in bringing about this fatal result. H. C. Wood[9] claims that ergot acts on the vasomotor centers when given in small doses as a stimulant; in large doses it is a depressant. He mentions in support of this statement a case of fatal ergotism with gastric irritation, thirst, diarrhea, burning pain in the feet and convulsions, and concluded that "the action of ergot in producing gangrene of the extremities is of interest as bearing on the general question of vasomotor affections by central disease." It certainly influences the blood pressure to a marked degree, and when carefully used may prove of service in this condition of extreme dilatation.

The iodids, especially the iodid of sodium, are in favor with some. Potassium iodid was of no use in my case. The nitrites have also been used. Coal tar products have given good results in relieving the pain. Cardiac drugs are indicated in some cases. They should be used with discretion. Cod liver oil and the phosphoglycerates of lime and soda are particularly useful as nerve foods, although the former is not always tolerated when used internally. There is no objection to its external use, and some prefer this method of administration to any other.

In the extremely intractable cases I believe the resort to surgery is justifiable, even if it be merely a palliative measure. There are cases where amputation of a finger or toe gave very great relief, and, if the patient solicits it and the family give consent, the operation should be performed, especially if there is the slightest tendency to gangrene. Resection of nerves and blood vessels was a useless procedure in most cases in which it was tried.

Local applications sometimes give marked relief. Ice water, to which a little alcohol has been added, may be sprayed on the affected part, which should be left uncovered in order to aid evaporation. If sufficient care is used not to freeze the part a spray of ether, chloroform or ethyl chlorid may be applied with advantage. Clay poultices should be studiously avoided. They bring no relief from pain, and removal causes great suffering.

But what shall one say in conclusion as to the genesis and proper classification of this interesting disorder? Is it a disease with a distinct and constant pathologic basis, or is it merely a symptom of some grosser disease? In 1894 Lewin and Benda[10] made a critical study of all the cases reported to that date, and it is their fixed opinion that erythromelalgia is not an independent disease, but a symptom-complex which may have either a central or peripheral origin. From the data at hand I am inclined to support this view, and also that of Eulenberg, who thinks that Raynaud's disease should also be so classed. It is my belief that both erythromelalgia and Raynaud's disease are simply different phases of the same condition, the one being dependent on an undue dilatation of the terminal arterioles, the other on an undue contraction of the same. Several authors, notably Johannsen, Potain, Rolleston and Sachs, report the two conditions in the same patient, and there is not the slightest doubt but that they do exist together as symptoms of some marked pathologic state, and notably in that disease of the blood vessels known as arteriosclerosis.

527 West One Hundred and Fiftieth Street.

9. "Therapeutics."

10. Berl. klin. Wochschr., 1894, xxxi, 53, 87, 117, 144.

VARICOSE EPIGASTRIC VEIN FOLLOWING PHLEBITIS.

ASTLEY PASTON COOPER ASHHURST, M.D.
Surgeon to the Out-Patient Department of the Episcopal Hospital.
PHILADELPHIA.

Patient.—Vincent M., aged 10, came under my notice in the out-patient department of the Episcopal Hospital, where he was being treated for intractable ulcers on the left leg, in October, 1906. The largest ulcer was about one and a half inches in diameter, over the subcutaneous surface of the left tibia, at the junction of the lower and middle third of the leg. There were numerous scars of other ulcers on this leg, as well as on the right.

History.—The history of the case is obscure. In December, 1904, he is said to have developed inflammatory rheumatism, which started in the left foot and ankle, and which subsequently spread up the leg and became erysipelatous in character. In January, 1905, the patient came under Dr. B. F. Stahl's observation, and I am indebted to him for his notes of the boy's condition at that time. Dr. Stahl writes: "His thighs and legs (I think both) were swollen with necrotic areas on feet and legs. I think the left leg was much worse than the right. The history was that of rheumatism and erysipelas. I have never been certain that either existed." The patient's mother says that his temperature was high, reaching 104 F.; that his face swelled up under the eyes; that the "sores" on the left leg came first, and that sloughs were removed from them before the right leg was affected. Later the right leg was similarly affected; both arms swelled up, and for a short time the patient was delirious. He was confined to bed until Feb. 22, 1905, and was not able to walk until the following July, while the last ulcer on his leg was not healed till a year later, July, 1906. During the summer of 1906 the scabs on some of the ulcers on the left leg were knocked off by a fall, and it was for this condition that the boy was brought to the Episcopal Hospital in the autumn of 1906. The ulcers were strapped and had healed solidly without scabs, about Christmas time.

Although the clinical history is so inaccurate, it is readily seen that the patient suffered from a severe general infection, and physical examination elicited the fact that this had been attended by an extensive phlebitis. On the left side the phlebitis had evidently involved some of the veins of the lower extremity, probably the internal saphenous and perhaps the superficial femoral, accounting for the persistence and recurrence of the ulcers. On the right side the superficial veins appear

to have escaped, but the external iliac vein was thrombosed, and the clot can still be felt extending beneath Poupart's ligament into the femoral and long saphenous veins as far down as the orifice of the superficial epigastric vein. The return current from the right lower extremity, being thus blocked by the clot in the common femoral vein, has been diverted into the superficial epigastric, which is immensely dilated and varicose. Some communicating branches leave the main trunk of the epigastric vein near the umbilicus, and some blood flows through them probably into the veins of the round ligament of the liver or into the superior epigastric and internal mammary veins. The main trunk of the superficial epigastric vein continues directly upward, and in the sternal region divides and subdivides into a plexus

of veins occupying the *left* mammary region. These veins can be very distinctly seen beneath the skin. The blood from these veins then flows across the chest and finally reaches the heart by way of the *left* cephalic vein.

The superficial veins of the left shoulder are all markedly dilated, making it seem probable that the deeper veins were thrombosed here also. From the absence of an enlarged vein passing directly from the right superficial epigastric vein to the axilla of the same side, which is the more usual route in these cases, it may be assumed that the right axillary vein is also more or less obliterated. It would otherwise be difficult to account for the blood from the right lower extremity reaching the heart chiefly through the left subclavian vein, as is the case in this patient.

Idleness in Insanity.—"Nothing to do" is the bane of the insane as much as it is of those mentally more fortunately situated.—J. F. Percy, M.D., in *Charities and the Commons.*

BIMANUAL VIBRATORY PALPATION.

HOWARD A. KELLY, M.D.
BALTIMORE.

In making a bimanual examination of the kidney or of a uterine or ovarian tumor it is often difficult to determine with great precision the extreme boundaries of the growth or of the misplaced organ. There is often a doubtful zone, around the more central manifestly resistant part of the tumor, where it shades off into the surrounding tissues.

The result attained by the customary methods of palpation may be said to yield the umbra or the more definitely resisting portion, while outside of the umbra lies a zone which we may call the penumbra or the doubtful area. Now, if I could only so palpate as to recognize the changes of consistency between the penumbra and its enveloping tissues I would then be able to enlarge the boundaries of the tumor or organ in question and so to reach more definite results.

A bimanual palpation concerns itself with these several factors: First, the mass under investigation; second, the enveloping body walls; third, the fingers which receive the impulses of percussion, which rest as a rule at some point near the lower pole or beneath the mass; fourth, the palpating fingers which communicate a movement to the mass in question; and, fifth, the adjacent organs and the various tissues in the midst of which the mass lies.

It is of the one factor, the palpating fingers, that I wish now to speak. I have long noticed the fact that if the palpatory pressure is made slowly by the upper hand an accommodation of the intervening structures, due to their elasticity, evidently takes place, or in the case of a fluid a slow wave is started and the impulse becomes diffused and is not conveyed with entire distinctness to the opposite pole. Often, with the exertion of greater force in palpating, the enveloping muscular walls are put on the defensive and a certain amount of resistance is excited which the patient can not prevent and which vitiates the fineness of the result.

Now I have found that I can obviate these difficulties and send distinct waves to the receiving finger by using the gentlest possible strokes in palpating, and so extend the field of my palpation by a device which I call vibratory palpation. Let us suppose the case of a pelvic tumor, the finger in the vagina rests lightly on the cervix if it is uterine, or on its lower pole if it is ovarian. Then the upper hand plays lightly over the abdominal wall, over the tumor, touching first its central portions and then advancing radially out toward its periphery, in all directions communicating a series of very rapid light vertical succession movements. As the periphery is reached these little vibrating thrills communicated by the palpating fingers are felt with the greatest distinctness by the finger in the vagina, so long as the tumor or solid organ is played on. They are not felt at all the moment the vibrations fall on the intestines or on the fat abdominal wall just beyond the periphery of the growth. The little vibrations are communicated by giving from three to five little tremulous movements every second to the palpating fingers.

The actual excursus, that is to say, the to-and-fro movement of the fingers does not extend over one centimeter.

In this way an extremely accurate outline of the general form of the tumor as well as of all its irregularities is obtained.

RADICAL CURE OF UMBILICAL HERNIA.

WILLIAM J. MAYO, M.D.
Surgeon to St. Mary's Hospital.
ROCHESTER, MINN.

The older methods of operation for the radical cure of large umbilical hernias were so unpromising that few surgeons cared to attack them unless forced to do so by acute conditions. Not only was the prospect of relief uncertain, but there was considerable danger attending the operation itself because of increased intra-abdominal tension, as the recognized procedure was to dissect out the recti muscles and transplant them to the median line.

These patients are usually obese with thinned-out recti muscles widely separated, so that when brought in apposition they have but little retentive power, even if the tension which is necessarily put on them is sufficient to maintain them in position.

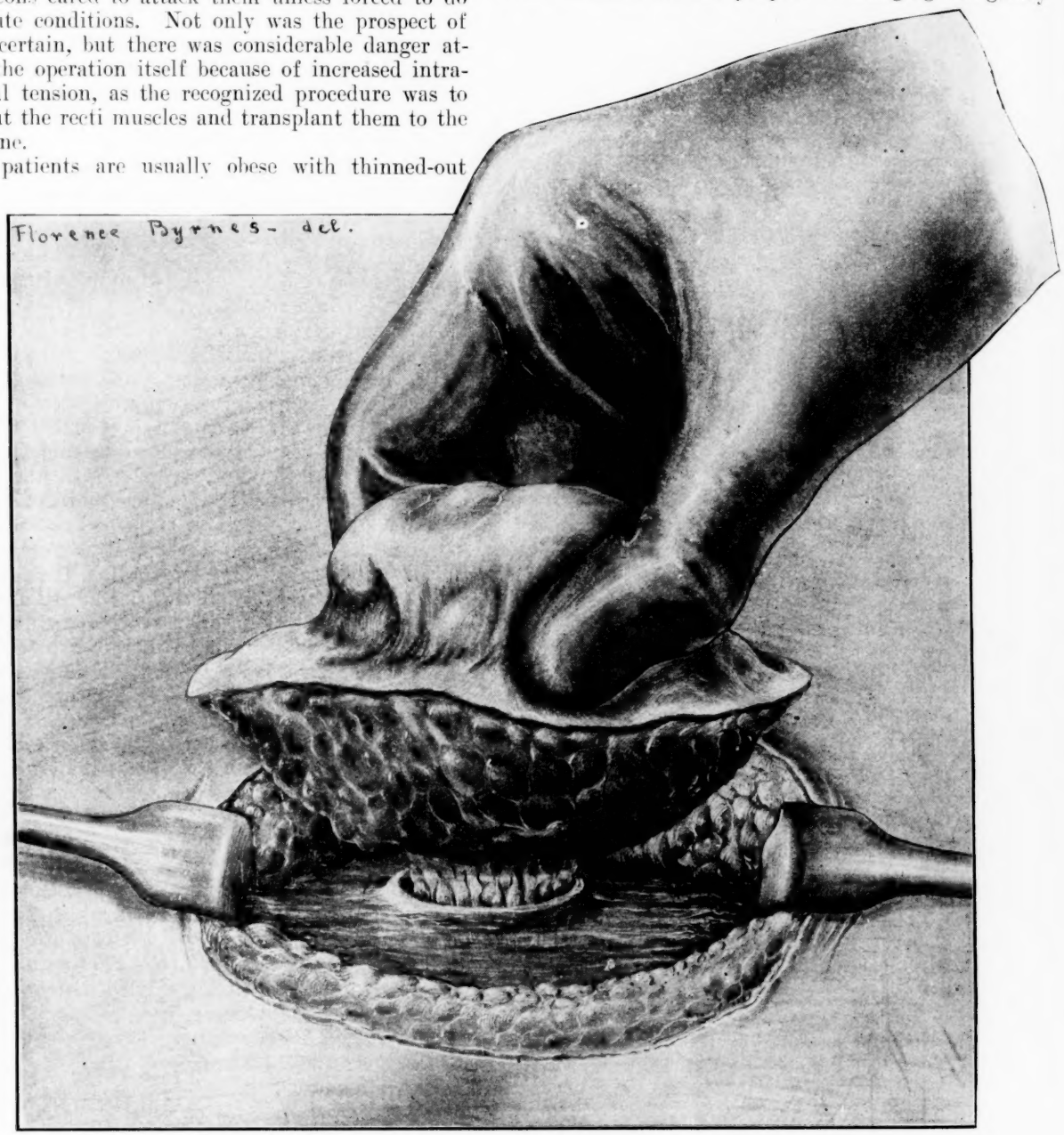

Fig. 1.—Removal of sac, adherent omentum and skin.

The hernial opening lies above the attachments of the urachus and remnants of the hypogastric arteries in the umbilical scar. That these three structures exercise some influence is evidenced by the fossa which they normally outline in the peritoneal cavity. Below the umbilicus the recti muscles are in close apposition, all of the aponeurotic structures of the abdominal muscles passing in front of them. Above the umbilicus there is three-fourths of an inch or more separation between the recti, due to the fact that here these muscles are completely ensheathed in the tendinous aponeurosis of the external and internal oblique and the transversalis muscles.

In 1894, in an operation for the radical cure of umbilical hernia along the old lines, a wide transverse incision was made for the purpose of bringing the greatly separated recti muscles in apposition. The muscles were found at least six inches apart and so thinned out as to render futile the idea of bringing them together. This led to the necessity of overlapping from above downward all of the aponeurotic structures of the abdomen to close the transverse operative gap. Without quite realizing the importance of the step which was accomplished in this case, I devised a method for the cure of umbilical hernia, by overlapping from side to side without any attempt to find the muscles (similar to the Blake operation). But in more than half of the cases in which this was attempted, sufficient overlapping could not be ac-

complished successfully, and I was forced back to the "above down" plan and found that in this way the largest protrusions could be satisfactorily reduced and the hernial opening closed without tension.

If a fleshy patient with umbilical hernia be laid flat on an examining table, it will be found that the anterior abdominal wall has become so stretched that the "slack" is considerable, so much so that if the right hand be placed below and the left hand above, the abdominal wall can be made to completely cover and overlap the lower hand. This stretching of the abdominal wall in the median line between the ensiform cartilage and the pubes may amount to from four to ten inches. If the patient now be asked to raise the body from the table, setting into action the recti muscles, they will be found to be displaced latterly to about the same extent. This overstretched condition of the abdominal wall is brought about as a result of the increased weight of the pendulous abdomen. As a person gains in weight the spine gradually becomes more erect in posture, and in the very fleshy individual the spinal column is bent backward, the weight of the head, neck, shoulders and upper thorax being used to counterbalance the abdomen. It is for this reason that the overlapping from above down method of cure is so easy in the very obese with large hernias, relatively much more so than in thin persons with normal abdominal walls.

The tendinous aponeurotic structures involved in the operation are among the strongest in the body and when overlapping is accomplished the resistance is nearly perfect. The sutures merely maintain the structures in apposition, while the intra-abdominal tension itself prevents displacement. It can be aptly compared to a steam boiler. If the boiler door is on the outside it requires great force to maintain its resistance to the pressure, whereas if the door is placed on the inside, the greater the pressure within the more tightly is the opening closed.

The operation is extremely simple. Two transverse elliptical incisions are made, cleanly exposing the neck of the hernial sac and the aponeurotic structures for several inches above and below it. The neck of the hernial protrusion is cleared as high as the aponeurotic structures extend. The sac is then opened and any intestine which may lie in it is returned into the abdomen. The contained omentum, if such there be, is ligated in sections on a level with the abdominal orifice and the stumps returned into the peritoneal cavity. The sac with all of the adherent omentum, including the skin, is cut away without further manipulation (Fig. 1). A stout curved needle threaded with strong celluloiden linen is passed from without in through the aponeurotic

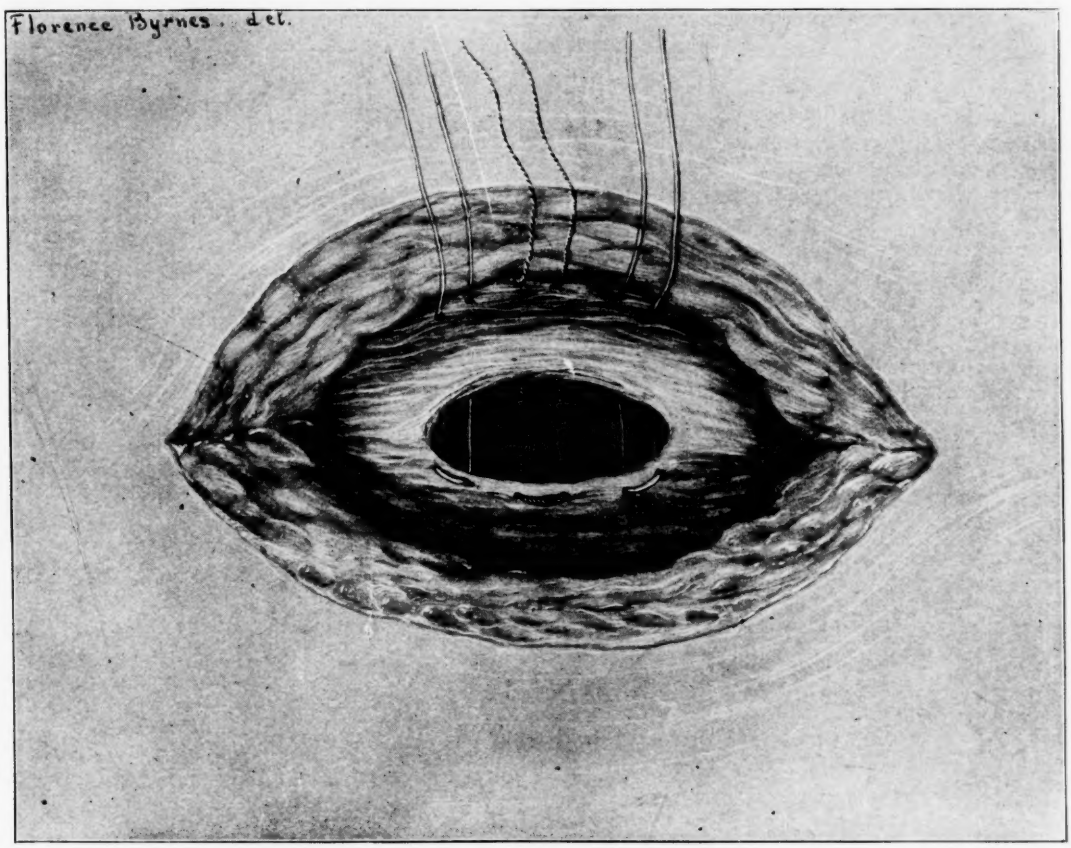

Fig. 2.—Suture of the aponeurotic and peritoneal structures, sutures placed.

structures and peritoneum from two to three inches above the margin of the opening.

To guard the needle as it enters the peritoneal cavity the bowl of a large tablespoon, as recommended by Monks, is a valuable aid. The needle and thread is drawn down and out of the hernial opening. A firm mattress stitch is now caught in the upper edge of the lower flap about one-fourth of an inch from the margin, the needle is then carried back through the hernial opening into the peritoneal cavity and made to emerge one-third of an inch lateral to the point of original entrance. On each side of this is introduced a similar mattress suture of strong chromicized catgut (Fig. 2). These three sutures are drawn tight, pulling the entire thickness of the aponeurotic and peritoneal structures behind the upper flap. The margin of the upper flap is

now retracted to expose the suture line, and if any gap exist it is closed with catgut sutures. The upper flap is now sutured to the surface of the aponeurosis below by continuous chromicized catgut suture (Fig. 3) and the superficial fat and skin closed. The patients are confined to bed from twelve to twenty days.

There are two modifications in the plan outlined above for which I am indebted to Dr. A. J. Ochsner. In the operation as originally performed the hernial opening was incised laterally and the peritoneum was separated from the upper flap, the lower being drawn upward into a pocket. These steps are unnecessary.

The above-down overlapping method for the radical cure of umbilical hernia I first presented in a paper before the American Academy of Railway Surgeons at the annual meeting in 1898.[1] In a second paper read before the American Surgical Association in 1901[2] the method was again brought forward. In a third article on the same subject, read before the Surgical Section of the American Medical Association at the annual meeting in 1903,[3] some further experiences were dwelt on.

The object of this fourth communication is to call attention to the ultimate results, as more than thirteen years have elapsed since the first operation was done. During this time one hundred and twenty-six umbilical hernias and fully as many postoperative hernias, especially those following appendicitis and gallstone operations, have been performed by this method, almost without a relapse.

Of the eighty-eight patients with umbilical hernia who were operated on between 1894 and 1905 seventy-five were traced. One had a partial relapse; her physician described it as a boat-shaped stretching at the site of the former operation, but stated that it did not inconvenience the patient. Another patient supposed to have suffered a relapse was operated on and a second opening found above and lateral to the closed umbilical opening.

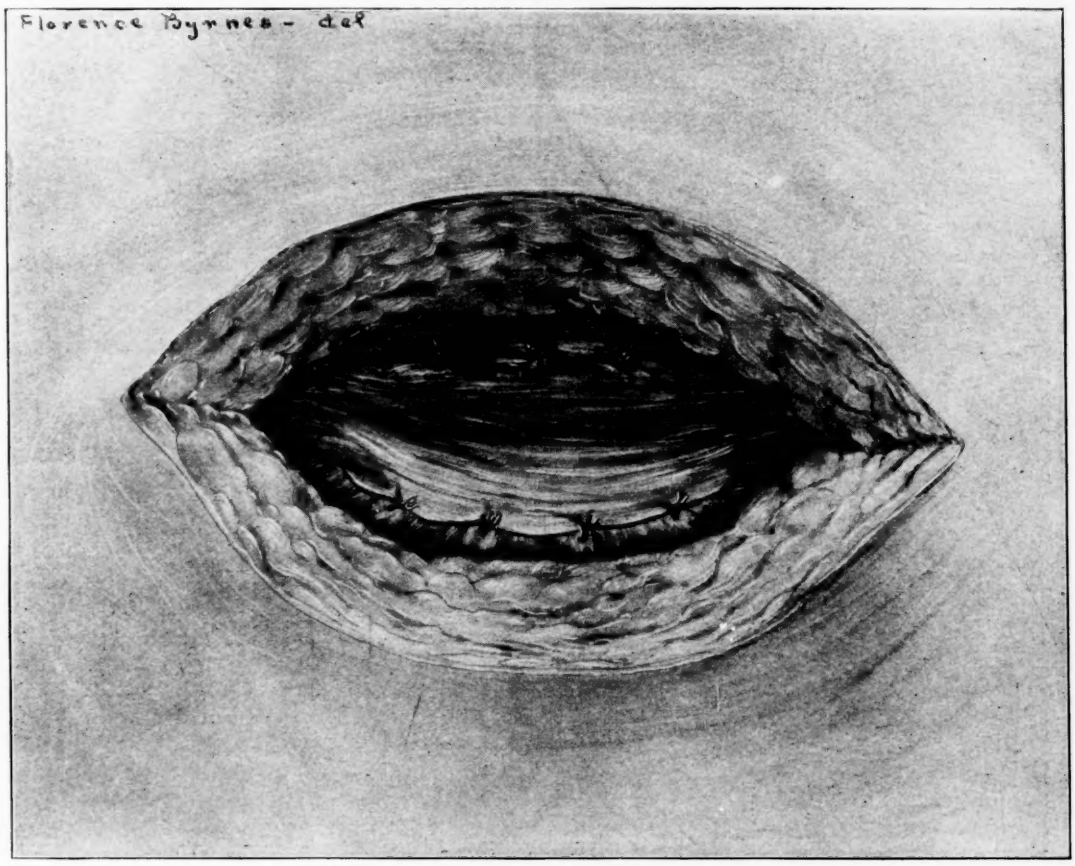

Fig. 3.—Sutured aponeurotic and peritoneal structures.

1. Ann. of Surg., January, 1899.
2. Trans. of Am. Surg. Assn., 1901, and Ann. of Surg., May, 1901.
3. THE JOURNAL, July 25, 1903, 225.

EXTENSIVE MULTIPLE KELOIDS.

THREE CASES IN CHINAMEN FOLLOWING THE HABITUAL HYPODERMIC USE OF MORPHIN.

MAXIMILIAN HERZOG, M.D.
Late Pathologist, Bureau of Science, Manila, P. I.
CHICAGO.

Keloid is a pathologic process of the skin, somewhat doubtful as to its nosologic classification, but generally looked on as a connective tissue neoplasm, closely allied to, though separate and distinct from ordinary fibromata. The name of this skin affection—keloid—was first used by Alibert,[1] and it should correctly be spelled cheloid, being derived from χηλή, a crab's claw.

The etiology of keloid to-day is still ill understood; we do know, however, that this morbid process frequently follows comparatively insignificant trauma of the skin and that it appears to require a special susceptibility or predisposition, either purely personal or racial, in the individuals in whom it develops. Pricks of the skin with small instruments, common needles or tattooing needles have frequently been noticed as the starting points of keloid formation. However, I have failed to

1. Maladies de la Peau, Paris, 1870.

find in the literature reports of cases of the development of multiple keloids in consequence of the habitual use of the hypodermic syringe in morphinism.

In the Bureau of Science in Manila we observed three cases of multiple keloids developed in habitual morphinists, all short-term prisoners in Bilibid, the penitentiary of the Philippine Islands, two of the patients being full-blooded Chinese, one a Chinese-Filipino Mestizo. In none of the cases could much of a history be obtained. A suspicious Chinese prisoner is, of course, not very liable to say much as to his history and morphin habit. It is also a notorious fact that habitual morphinists are absolutely unreliable as to veracity, not only with reference to the use of morphin, but with reference to anything. In other words, they are confirmed, colossal liars. Hence, whatever history was obtained in any one of the three cases is of no great importance, since no reliance can be placed in it.

Fig. 1.—Photograph of patient in Case 1, front view of arms.

Fig. 2.—Photograph of patient in Case 1, front view of thighs.

From inquiries it appears that some Chinese, starting out first as opium smokers, later become addicted to the habitual use of morphin hypodermically. The preparation employed in this manner is said to be a very inferior, impure, crude morphin.

About two years ago Lyon and Wherry[2] reported from Manila a case of infectious dermatitis in chronic morphinism, accompanied by an unknown diplococcus resembling *M. gonorrhœæ*. The authors describe this case as occurring in a Chinese about 20 years old, a prisoner in Bilibid, who had been addicted to the hypodermic use of morphin, and who showed on the chest, arms and legs an extensive ulcerative dermatitis. From the pus of the skin lesions a diplococcus was obtained. From the histologic description of sections of the ulcers it does not appear whether or not the ulcerations were developed on the basis of primarily existing keloids. Evidently the authors never suspected nor mentioned keloid formation.

Fig. 3.—Photograph of patient in Case 1, back view of buttocks and thighs.

Borst,[3] in his extensive monograph on tumors, defines keloid as follows:

> Keloid presents itself as an exceedingly tough, callous, frequently stellate, cicatricial tissue, forming elevated, narrow ridges, bands, plates or nodules, of a reddish-white, shining appearance. It generally develops on the base of a traumatism (after stabs, cuts and burns), and also apparently without any preceding insult. Hence, formerly we used to distinguish between cicatricial keloid, apparently following traumatism, and spontaneous keloid. In the case of the latter it was alleged that the papillary body remained intact. This distinction has with propriety been abandoned. Even if one concedes a certain influence in the production of keloids to traumatism, it appears

2. American Medicine, 1903, vi, 401.
3. Die Lehre von den Geschwuelsten, Wiesbaden, 1902, I, 116.

justifiable to look on an existing predisposition as the main factor. Lubarsch in this connection justly points out the fact that the traumatic basis can not explain the liability of keloid to reappear after removal.

Microscopically keloid shows a matrix composed of coarse and homogeneous fibers with thick-walled vessels. The scanty, narrow, spindled, cell nuclei are found arranged parallel between the fibers or attached to them. Masses of fibers, freely interlacing with each other, contain lymph clefts. The statement frequently made that the fibrous bands radiate rootlike from the vessels I have not been able to confirm. The cicatricial keloid only rarely has the character of a true tumor; it is generally to be looked on as a specialized, hypertrophic, cicatricial tissue.

Unna[4] gives the following histologic definition of keloid:

A fibroma limited to the cutis, perivascular in its arrangement, running mostly parallel to the vessels and springing from them, growing later, with atrophy of the vessels and cells,

Fig. 4.—Photograph of patient in Case 2, front view.

into a pure collagenous, uniform structure, compressing the other constituents of the skin. Transitory keloid, which develops on the base of granulations or infective granulomata (lupus, syphilis) and other infectious inflammations (acne), is distinguished from the persistent one, mainly by the fact that the liability of the vascular adventitia to fibromatosis is only transient. Thus these keloids never reach the last stage of collagenous hypertrophy, from which there is no recovery; they are not encapsulated, their lymph spaces are not destroyed, and their cells and vessels do not completely atrophy. Thus complete restitution is possible by simple absorption of the fibrous mass; we have once more a simple scar, a simple syphilide and so on. . . . But apart from these differences, which are founded less in the act than in the condition, transitory keloid is in no way distinguished from the first stage of persistent keloid.

Hyde and Montgomery[5] make the following statements:

Authors have described two varieties of this disease, the "true," "spontaneous" or idiopathic form, and the "false," "spurious" or cicatricial form which develops in the scar produced by a previous traumatism. There is no anatomico-patho-

Fig. 5.—Photograph of patient in Case 2, side view.

logic separation between the two, and it is highly probable that all cases of so-called "spontaneous keloid" are instances of development of the growth in regions of pressure, contusion, traction or slight traumatism, that have not been recognized, such as the wounds inflicted by mosquitoes.

The new formations of this disease are dense, generally elas-

4. Histopathology of the Diseases of the Skin, English Edition, New York, 1896, 842.

5. Diseases of the Skin, Philadelphia, 1901, 6th Edition, 539.

the nodules imbedded in the corium, or projecting above the level of the skin and firmly attached to it. . . . Slow of evolution, they usually persist for a lifetime. . . . These forms are whitish or reddish, globular or semiglobular nodules, buttons or plaques, with roundish or ovoid outline; linear, elevated striæ, bands, ridges, resembling cords, ribbons, or tapes, in irregular outline and disposition, or combinations of two or more of these figures. . . . The lesions vary in size from that of a small pea to that of a large saucer, the largest including the outlying points of the limbs or radiating ridges. Over them the skin is reddish or whitish in color, smooth, hairless, and occasionally hypersensitive to pressure and heat. Often small blood vessels transverse its surface. The growth at times is also the seat of spontaneous pain. . . . It is far more common in the colored than in the white races. . . . Cicatricial keloid resembles in its features the true keloid described above and differs from it chiefly in the fact that the cicatricial form is ordinarily preceded by scar formation, due either to disease or to injury. It thus follows the lesions of zoster, variola and syphilis, as also traumatism of all sorts, including those made by surgical operations and accidents. The tumors, as a rule, spring directly from scar tissue, and after reaching a maximum of development do not surpass the limits of the original lesions; at times, however, the growth slowly develops, as in spontaneous keloid, at a distance from the original site of injury or disease. The origin of the disease is exceedingly obscure. According to Langerhans, Warren, Kaposi and others, in all cases of true keloid, the papillary layer of the corium and the interpapillary projections of the rete mucosum downward are intact, the new formation being strictly limited to the middle and lower portions of the corium, in which there are numerous whitish, tendinous fibers of connective tissue disposed for the most parallel with the surface of the rete mucosum. In cicatricial keloid these observers find a partial or complete absence of the papillæ and interpapillary processes.

Babes, Croker and others, on the contrary, find that the papillæ and rete mucosum may be normal, modified or absent in either form. Lymph vessels with proliferated endothelium, compressed by longitudinal growth of the fibers, passing in both vertical and horizontal planes, for the most part remain patulous.

According to Fox:[6]

Keloid occurs in both sexes and at any age. In the negro it is notably common as compared with its occurrence in the white race. Its hidden cause appears to be associated with some individual predisposition of which we are ignorant. In certain cases a keloid tumor is certain to develop wherever the skin is cut, pricked or injured in any way. Many writers have made a distinction betwen true and false keloid, claiming that the former arises spontaneously and that the latter develops on an injury to the skin. So far as we know, every keloid may arise from some injury to the skin, although in very many cases it is impossible to get any history of even the prick of a pin or a scratch. Apparently idiopathic keloid and keloid developing on a cicatricial base (scar keloid) are one and the same in nature. But every elevated and dense cicatrix is by no means a keloid, simply because it may and often does subsequently become the seat of this disease.

Ravogli,[7] who recently read a somewhat extensive paper on the subject before the American Medical Association, believes that the so-called true or spontaneous and the cicatricial keloids are different, because between the two kinds there are differences of a clinical and histologic order. In the cicatrical keloid this author claims that the fibers result in a granular mass in opposition to the clean and neat fibers which are found in the spontaneous keloid. In cicatricial keloid, the papillary layer shows no papillæ; in the spontaneous keloid the papillæ of the derma are well preserved. One of the important features in the structure of the cicatricial keloid is the nearly total absence of the elastic fibers.

Iwanow, according to Ravogli,[8] believes that the destruction of the elastic fibers is the cause of multiple keloid. Goldman also believes that keloid is the result of the disappearance of the elastic fibers. According to Ravogli's belief the growth of the connective tissue is greatly increased by the loss of the elastic fibers. It seems that the office of these fibers is that of maintaining the connective tissues up to a certain degree of development. The elastic fibers, when destroyed, are never

Fig. 6.—Photomicrograph. Section from Case 2, showing keloid fibers in epidermis. Low magnification.

Fig. 9.—Photomicrograph. Section from Case 3, showing very much swollen homogeneous keloid fibers. Medium magnification.

6. Photographic Atlas of the Diseases of the Skin, Philadelphia, 1903, 120.

7. False or Cicatricial keloid, THE JOURNAL A. M. A., 1904, xliii., 297.

8. Ravogli and those who believe that cicatricial keloid is due to the disappearance of the elastic fibers do, however, not at all explain why this disappearance occurs.

formed again. In the structure of the keloid all traces of glands, hair, follicles, cutaneous muscles are lacking.

In the discussion of Ravogli's paper before the American Medical Association, Gottheil stated that every keloid is cicatrical in its origin and that there is no such thing as a spontaneous keloid. He has, besides, failed to find any microscopic differences between the two varieties. D. W. Montgomery observed a case of spontaneous keloid in a negro. Microscopic examination showed the papillæ obliterated just as in true keloid. Moses and Heidingsfeld also believe that no differential histologic diagnosis exists between false and true keloids. Heidingsfeld does not believe the absence of elastic fibers to be the cause of keloid formation. Tschlenow[9] has quite recently collected and critically gone over the literature of keloid, and he sums up his views on the subject as follows:

1. Under the name of keloid we understand a particular skin affection which, in some regards, for the present, until its etiology is better known, must be classified as a neoplasm among the new formations of the second group, namely, the fibromata.

2. Among the group of keloids have to be classified the so-called primary form called true keloids and the secondary (cicatricial keloids). The hypertrophic cicatrix has to be excluded from this group.

3. Clinical as well as histologic findings show that the former division of the keloids into primary and secondary ones is not justified, since both divisions develop according to a uniform type. In spite of this such a division may be retained for the sake of convenience from a clinical standpoint.

4. The histologic changes in keloids consist in an increased proliferation of the connective tissue along the blood vessels of the cutis, followed by secondary changes and the simultaneous loss of elastic tissue.

5. It was formerly believed that the preservation of the papillary body in primary keloid and its disappearance in secondary keloid could be used as a histologic differentiation between the two types. However, this view can not be upheld.

6. The etiology of keloid has not been cleared up.

7. As the main cause of the development of keloid we have to consider a personal or race disposition which when present causes the skin frequently to react by the formation of keloids on a sometimes insignficant stimulus. This may also explain the pronounced tendency of keloids to reappear after the removal.

8. As to the pathogenesis of keloid, the vascular system undoubtedly plays an important part in their development. However, the minute details are not yet perfectly understood.

9. Keloid is neither a cicatrix nor a simple hyperplasia and is distinct in its histology from the infectious granulomata and the fibromata. A satisfactory classification at the present time is not possible.

10. The causes for the spontaneous arrest in the development of keloid are not known.

11. The prognosis in general is very unsatisfactory.

12. The treatment requires a great deal of attention and persistency and in general is highly unsatisfactory.

9. Ueber multiple spontane Keloide, Archiv f. Derm., 1904, lxxii, 138.

Fig. 7.—Photograph of patient in Case 3, front view.

Fig. 8.—Photograph of patient in Case 3, side view.

The three cases to be reported in this paper are the following:

CASE 1.—S. F., Chinese, aged 29, a peddler by trade, had been sentenced to ten days' confinement in the carcel for doing business without a license. He had been living, according to his statement, for a number of years in Manila. He is a poorly nourished man of average size.

History.—When asked how often and in what doses he had used morphin hypodermically, he gave the following certainly astonishing account: He has used morphin for two years, lately injecting one-half grain 28 times a day, divided as follows: Four grains in eight injections at 8 a. m., five grains in 10 injections at noon, and five grains in 10 injections at 8 p. m. He employed an all-metal syringe. The prisoner estimated the amount used by the price he paid for the drug. His statements, of course, are not at all trustworthy.

Examination.—At the time when he was questioned he had been in prison about a week, he was weak and nervous and could hardly stand on his feet. The skin of the arms and thighs, both in front and behind, was covered with hard, shining ridges, plates and nodules (Figs. 1, 2, 3). Here and there, particularly at the posterior surfaces of the thighs, the nodules showed a superficial loss of substance or shallow ulceration. There was, however, nowhere a purulent or even copious serous discharge. The keloid character of the lesions was best marked on the anterior surfaces of the arms; here the ridges were stellate and they presented that appearance which has led to likening the lesion to a crab's claw.

In this case a histologic examination of the keloids was not made, since the prisoner, a day or so after the first examination, was discharged and deported from the islands. However, the lesions were so typical that there was no doubt as to their keloid character, as a glance at the illustrations from this case will show.

CASE 2.—Q. T., a Chinese-Mestizo (father a Chinese, mother a Filipina), said to be 16 years old, was sent to prison for a short term for being found asleep in the streets.

Examination.—The young fellow when examined appeared of average size and of normal development, except as to the

external genital organs. Both the testicles and the penis were very much undersized. Mentally the boy appeared exceedingly dull, so that in spite of the presence of a competent interpreter it was impossible to get any history out of him. However, he admitted having frequently used morphin hypodermically for over two years. The keloids, mostly consisting of nodules and plates, were found particularly on the outer sides of the arms and on the anterior and outer surfaces of the thighs (Figs. 4 and 5). They were hard, smooth and shining.

In Cases 2 and 3, pieces of tissue were obtained and at once after removal placed in Zenker's solution. The paraffin sections were stained with hematoxylin and eosin, eosin and alkaline methylene blue and by Weigert's method for elastic fibers.

The sections from the tissue in Case 2 (Fig. 6), removed from the thigh above the knee, show in the outermost portion of the loose subcutaneous areolar connective tissue some remnants of sweat glands. Above these subcutaneous strata are masses of coarse homogeneous fibers, arranged in bands and bundles, which run parallel to the surface of the skin. These bundles interlace with each other in such a manner that in general the deeper layers appear to run at right angle to the upper layers and in the sections the former are cut transversely and the latter longitudinally. Fairly numerous vessels with moderately thickened walls are seen in the innermost layers of the coarse fibers. The outer layers show few vascular lumina. Elastic fibers are entirely absent where the tissue is composed of the coarse, homogeneous, collagenous fibers, but at the margin of the fibrous masses and in one place near the surface of the skin, between two converging fibrous bands, they are encountered. In the keloid tissue proper, sweat and sebaceous glands and hair follicles are absent. The papillary layer is almost entirely obliterated. Only here and there a very short stumpy papilla or two with correspondingly small interpapillary pegs are seen. The epidermis in general is almost completely flattened out. The Malpighian layer is normal in extent, no karyokinetic figures are seen in its cells. The stratum granulosum is narrow and its keratohyalin scanty. The stratum lucidum and the stratum corneum are broad. At the margin of the keloid mass proper, hair follicles and glands are again encountered, but the tissue here shows a round-celled subacute inflammatory infiltration, composed of small round lymphoid, embryonal fusiform and a few plasma cells. Bacteria are not encountered in these marginal inflammatory areas.

CASE 3.—A. L., Chinese, aged about 30, had been sent to prison for one month in punishment of a petty theft. He is a medium sized, strong built, fairly well-nourished man. He admitted having used morphin by the aid of the hypodermic syringe for two years. Previously he had been an opium smoker.

Examination.—All parts of his body accessible to the syringe, with the exception of the face, head, hands and feet were covered with keloid nodules and elevations. They were found from the clavicles downward to the ankles, on the inner and outer surfaces of the arms from the shoulders to the wrists, on the sides of the thorax, on the buttocks, on the anterior, inner, outer and partly on the posterior surfaces of the thighs, and over the calves (Figs. 7 and 8). The most profoundly effected surfaces were those of the left arm, most probably on account of having been most frequently used as the site for the morphia injections. Most of the keloids were round or elliptical, very firm elevations. Irregularly stellate ridges were seen, however, on the outer surface of the left arm. The nodules, ridges, etc., were smooth, moderately shining and of a pale reddish hue. Some of them were covered with dried up scabs. Others showed a very shallow, ulcerated surface.

Microscopic Examination.—Pieces of tissue were removed from the outer surface of the left arm and from the left shoulder. Microscopic examination of the sections shows the following (Fig. 9): In general the tissues are very much like those from Case 2, though some points of difference are to be noted. The keloid fibers are, on the whole, much coarser than in Case 2, more swollen, more homogeneous. In some places they do not reach up to the epidermis, and when they do the papillary layer is fairly well preserved. Here also small remnants of hair follicles are found. All epidermal layers, except the stratum germinativum, are thin. Lymph clefts in the keloid mass are more numerous than in Case 2, but in neither of the cases is a proliferation of lymphatic endothelia demonstrable. The inflammatory zone at the margin of the keloid connective tissue mass is less pronounced than in Case 2. In neither of the cases are the keloid fibers directly traceable to the adventitia of vessels. Elastic fibers are absent in the area of keloid connective tissue fibers. No bacteria are seen in the sections.

CONCLUSIONS.

The most important and most interesting deductions to be drawn from the observation and examination of these three cases are:

1. The great multiplicity of the keloids and the vast areas over which they occurred.

2. Their common etiology, all three unmistakably depending on the habitual use of the hypodermic syringe for the purpose of injecting morphin.

3. The fact that Chinese, when habitually using hypodermic injections of morphin, are apparently liable to development of keloids. This is probably due to a racial predisposition. It is perhaps proper to mention here that, while opium smoking is very widespread among the Chinese, the use of morphin by the aid of the hypodermic syringe is not at all common among these people.

4. The result of the microscopic examination is in accord with what has repeatedly been described as the typical histology of the keloid. Several years ago I examined microscopically several cases of spontaneous keloids. The sections from these cases are not now accessible, but I have the impression that there is no fundamental difference between the histology of so-called spontaneous and acquired keloid. The preservation or absence of the papillæ of the derma, in the two types of keloids in particular, is by no means an invariably present differential feature; on the contrary, transitional stages are occasionally found in either variety.

103 East Randolph Street.

ISOPRAL AND HYDRATED CHLORAL.*

ROBERT A. HATCHER, PH.G., M.D.
Assistant Professor of Pharmacology, Cornell University Medical College.
NEW YORK CITY.

A student of materia medica can not fail to observe that many substances come into notice, rise into popular favor and sink back into obscurity, only to give place to others which follow the same course. This observation should tend to make one conservative, but we are so accustomed to brilliant discoveries, whereby the impossibility of yesterday becomes the accomplished fact of to-day, that many of us have cast conservatism to the winds and accept, with extraordinary credulity, the statements of the charlatan, the falsifier and the self-styled investigator.

We are coming to appreciate the indecency of allowing ourselves to be made the dupes and unpaid agents of

*This article was read at the meeting of the Section on Medicine of the New York Academy of Medicine on April 16, 1907

the makers of worthless compounds, which are forced on our notice in high-sounding, and often meaningless, phrases. We must also be on our guard against accepting the statements of those who may be interested in reporting too "optimistically" on nostrums sold at fancy prices, and we must remember that the investigator who is paid for his report and the enthusiast are prone to accept insufficient evidence as the basis for highly-colored reports.

While the ideal is being sought in every department of medicine, and nowhere more earnestly than in the field of anesthetics and hypnotics, it should be remembered that these remedies, which by their very nature can not be wholly free from danger, should not be used on man before they have been thoroughly tested on animals. The precise dose for man can not be learned by experiments on animals, but such experiments do unquestionably show the mode of action of a substance, and from this its advantages and disadvantages may be compared with those of another substance. Thus, the depression of the vasomotor center in one case, and that of the respiratory center in another, may limit the usefulness of certain agents.

Isopral is being extensively advertised as "The safe hypnotic of the chloral group; isopral acts more efficiently than chloral in one-half the dose, and without depressing effects on the heart and nervous system."

The danger attending the uses of hydrated chloral has long been recognized, and due caution is exercised in its employment. If it can be shown that isopral is fully as dangerous as hydrated chloral, and probably more dangerous, we shall not often have occasion to prescribe the proprietary, of which we know practically nothing in respect to other effects than the production of unconsciousness, and which costs about twenty times as much as the official hydrated chloral.

The use of isopral by clinicians is apparently based on the pharmacologic investigation of Impens,[1] who gave figures purporting to show that isopral is much safer than chloral. It does not seem to me that his conclusions are in any way justified, and the table taken from his article is given for comparison with results obtained myself in experiments on eight cats, thirteen dogs and two guinea-pigs.

Impens determined the effective and the lethal doses of isopral and hydrated chloral for cats, dogs and rabbits respectively, and, dividing the lethal by the effective dose, obtained indices of their safety. It will be seen that the margin of safety given for isopral is about three and a half times that of hydrated chloral in the case of cats. I am at a loss to understand how any conscientious observer could come to such a conclusion in the light of my own observations given in the protocols immediately following the table of Impens.[2]

TABLE TAKEN FROM IMPENS' ARTICLE.

(All doses are expressed in grams per kilogram of body weight.)

		Isopral.	Hydrated chloral.
CAT:	Effective	0.09	0.2
	Lethal	0.4	0.25
	Quotient	4.4	1.25
RABBIT:	Effective	0.2	0.356
	Lethal	0.9	1.54
	Quotient	4.5	4.2
DOG:	Effective	0.093	0.25
	Lethal	0.6	1.0
	Quotient	6.4	4.0

1. Therap. Monatsh., 1903, ix, 459; x, 533.

2. Impens gave the drugs by the mouth. I gave them by the rectum, from which absorption is somewhat more rapid, but this does not affect the ratio of toxicity.

CATS.

March 13. CAT 1.—WEIGHT 4.56 KG.[3]
11:15 A. M.—0.1 isopral.
11:17 —Some incoördination.
11:30 —Dozes a minute or two and then struggles to rise.
11:44 —Less incoördination.
11:55 —Constantly in motion.
12:27 P. M.—Very restless; gait nearly normal.
12:50 —Becoming quiet.

March 13. CAT 2.—WEIGHT 4.4 KG.[3]
11:23 A. M.—0.1 hydrated chloral.
11:32 —Some incoördination.
11:52 —Dozed about half an hour.
12:23 P. M.—Nearly normal.
12:50 —Sleeping in middle of floor (habitually seeks corner).

March 13. CAT 3.—WEIGHT 2.57 KG.
2:08 P. M.—0.3 isopral.
2:11 —Wild excitement.
2:17 —Fully extended, sphincter ani relaxed.
2:30 —Deep narcosis; respiration, 60, shallow.
March 14.
—Sitting up, awake nearly all day; some incoördination.
March 15.
—Extremely irritable; much depressed.
March 16.
—Sleeps most of the time; rolled over on side after leaping from table 77 cm. in height.

March 13. CAT 4.—WEIGHT, 2.6 KG.
2:00 P. M.—0.3 hydrated chloral.
2:14 —Some incoördination.
2:25 —Fully extended; respiration 35.
3:40 —Narcosis not so deep as in 3; reflexes more easily elicited.
March 14.
—Very sleepy all day.
March 15.
—Nearly normal.
March 16.
—Falls gracefully to feet when dropped 1 meter.

March 14. CAT 5.—WEIGHT, 3.5 KG.
11:24 A. M.—0.35 isopral.
11:55 —Respiration 100, very irregular.
1:00 P. M.—Reflexes abolished.
5:00 —Respiration 38.
March 15.
10:00 A. M.—Respiration, 14.
5:00 P. M.—Respiration, 12.
March 16.
11:00 A. M.—Respiration, 10; reflexes obtained on pinching toes.
March 17.
7:30 A. M.—Respiration, 23.
March 18.
—Rolls on side after leaping from table.

March 23. CAT 6.—WEIGHT, 3.0 KG.
9:37 A. M.—0.35 hydrated chloral.
11:37 —Respiration 90, irregular; reflexes from toes.
3:20 P. M.—Respiration, 51; reflexes from toes.
March 24.
8:00 A. M.—Respiration, 27.
March 25.
7:30 A. M.—Respiration, 21; dozing all day.
March 26.
—Very sleepy all day.

March 26. CAT 7.—WEIGHT, 4.51 KG.
10:15 A. M.—0.375 isopral.
11:00 —Died.

March 26. CAT 8.—WEIGHT, 4.62 KG.
11:05 A. M.—0.375 hydrated chloral.
11:35 —Struggles to escape from cage.
5:20 P. M.—Very restless; respiration, 22.
March 27.
10:00 A. M.—Respiration, 18; restless; frequently struggles to feet.
March 28.
—Some incoördination.
March 29.
—Normal.

The dose of isopral in Experiment 1 exceeds that claimed by Impens to be effective by more than 10 per cent., but except for a few minutes of dozing it caused only excitement and incoördination, while the same amount of hydrated chloral, which is just half that claimed by Impens to be effective, caused a considerably greater degree of hypnosis. In Experiment 7 a dose of 0.375 gm. per kg. proved fatal, while Cat 8 survived the same amount of hydrated chloral, which is 50 per cent. greater than the fatal dose given by Impens. Furthermore, sublethal doses of isopral cause more profound depression of the respiratory center and more lasting incoördination than does hydrated chloral in equal doses.

Cushny says[4] that the soporifics, or narcotics (of the chloral group) have the same general action as the anesthetics, which, as is well known, paralyze the respiratory center, and we may feel sure that the relative

3. Cats 1 and 2 are thoroughly accustomed to the laboratory, having been kept there for four months. Neither is wild, but 2 is naturally more quiet than 1.

4. Pharmacology and Therapeutics, third edition, p. 188.

danger of the different members of the chloral group may be measured by their depressant action on the respiratory and vasomotor centers.

A number of experiments on dogs were, therefore, made with a view to determining the relative effects of isopral and hydrated chloral on the respiratory and vasomotor centers. Especial care was observed in the different experiments to have the same degree of anesthesia, which was just sufficient to prevent pain during the short operation preliminary to taking tracings. The protocols of Experiments 8 and 9 will serve to illustrate the relative action of the two drugs. The same results are shown more graphically in the tracings of Experiments 12 and 13.

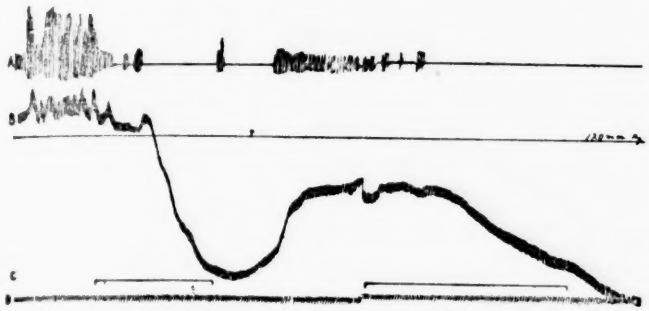

Fig. 1.—April 1, 1907. Fox terrier; excellent condition, weight 7.0 kg. At 11:05 ether; cannulas inserted. At 11:25 ether withdrawn. At 11:41 tracing. At 11:42 1/3, injected 0.1 gm. isopral per kg. of weight. At 11:45 2/3 injected 0.1 gm. isopral per kg. of weight. A, respirations; R, blood pressure; C, lines showing times of injection; D, time record in seconds. (Less than half a dozen heart beats, not shown on tracing, occurred after the heart had apparently stopped.)

March 20. DOG 8.—MALE, WEIGHT, 5.3 KG.

9:55 A. M.—Ether cannulas inserted into the carotid artery, femoral vein and trachea.
10:15 —Ether withdrawn.
10:25 —Dog awake.
10:33 —Blood pressure[5] 140, respiration 48, heart rate 96.
10:34-10:36½—0.1 gm. per kg. isopral, vein.
10:35 —Blood pressure 134, respiration 21, heart rate 90.
10:36 —Blood pressure 108, respiration 36, heart rate 126.
10:36½ —Blood pressure 50, respiration 48, heart rate 114.
10:44 —Blood pressure 100, respiration 23, heart rate 125.
10:44-10:47—0.1 gm. per kg. isopral, vein.
10:45-10:47—Blood pressure 40, respiration stopped, heart rate 96.
10:47¼ —Blood pressure 18, heart rate 84.
10:48 —Blood pressure 0, heart stopped.

It is seen by the protocols of these experiments that 0.1 gm. of isopral per kg. of weight caused a much greater fall in blood pressure (vasomotor depression) and a more profound depression of the respiratory center than did twice as much hydrated chloral, three times as much hydrated chloral as isopral being required to produce paralysis of the respiratory center, at which time the vasomotor center was less affected after hydrated chloral than after isopral, as indicated by the asphyxial rise occurring after chloral, but not after isopral.

The deep respirations shown in the isopral tracing are due to struggling; the normal respiration is shown at the very beginning of the tracing. It is seen that the respiration stopped before a third of the second dose of isopral had been injected, and that the heart was rapidly failing, as shown by the short excursions, while the vasomotor center was soon completely paralyzed, for no asphyxial rise of blood pressure occurred, the heart stopping within three minutes after the respiration ceased. In the case of hydrated chloral more than three-fourths of the second dose had been injected before the respiration ceased, at which time the heart beats were much stronger, the heart continuing to beat vigorously for seven minutes; the vasomotor center was still active, as shown by the asphyxial rise of blood pressure. The ratio of toxicity of isopral to that of hydrated chloral, as shown in several of my experiments on dogs, in which the drug was injected intravenously, is as ten to four; this is confirmed in the present experiments, since respiration was paralyzed by less than half as much isopral as of chloral, but Impens gives the ratio of toxicity as ten to six, or a relative toxicity for chloral 50 per cent. greater than I was able to show.

A guinea-pig was given 0.4 gm. of isopral per kg., and another was given 0.8 gm. of hydrated chloral per kg., the latter being somewhat more deeply narcotized. Both were able to sit up in about four hours and were recovering apparently, but both died during the night—a result which might be attributed in part to the lowered temperature of the building at that time.

Fig. 2.—April 1, 1907. Mongrel, excellent condition, weight 6.6 kg. At 11:57 ether; cannulas inserted. At 12:17 ether withdrawn. At 12:30, tracing. At 12:31-12:34:20, injected 0.2 gm. hydrated chloral per kg. of weight. At 12:36-12:39:20 injected 0.2 gm. hydrated chloral per kg. of weight. At 12:41 tracing in seconds interrupted 50 seconds while changing drums. A, respirations: B, blood pressure; C, lines showing times of injection; D, time in seconds; Y, X, places where writing point failed to record heart beats.

DOG. 9.—FEMALE, WEIGHT, 6.8 KG.

12:40 P. M.—Ether; operation as in preceding experiment.
1:00 —Ether withdrawn.
1:27 —Blood pressure 140, respiration 65, heart rate 130.
1:29 —Blood pressure 140, respiration 65, heart rate —.
1:30-1:32½—0.2 gm. per kg. hydrate chloral, vein.
1:32 —Blood pressure 115, respiration 66, heart rate —.
1:33½ —Blood pressure 92, respiration 66, heart rate 120.
1:40 —Blood pressure 120, respiration 45, heart rate 144.
1:40¼-1:43½—0.2 gm. hydrated chloral, vein.
1:44 —Blood pressure 70, respiration 24 shallow, heart rate 120.
1:47 —Blood pressure 93, respiration 31, heart rate 132.
1:51 —Blood pressure 76, respiration 21, heart rate 160.
1:53-1:54—0.1 gm. hydrated chloral, vein.
1:54¼ —Blood pressure 80, respiration 16, heart rate 140.
1:55-1:56—0.1 gm. per kg. hydrated chloral, vein.
1:56¼ —Blood pressure 66, respiration stopped, heart rate 115.
1:58 —Blood pressure 70, heart rate 110.
1:58½ —Blood pressure 50, heart rate 65.
1:59 —Blood pressure 0, heart stopped.

The results obtained in these experiments and confirmed in a number of others do not agree with the figures given by Impens for the relative toxicity of the two drugs.

Cats and dogs are so prone to fall asleep at any time in those places to which they are accustomed that it is evidently impossible to fix the minimal hypnotic dose with accuracy for these animals, hence but little value attaches to Impens' conclusions as to the exact effective dose for them. Rabbits usually remain awake during the day, and they, therefore, afford a better opportunity for comparing the effectiveness of hypnotics, and the indices of safety of isopral and hydrated chloral for these animals given by Impens are so nearly the same

5. The blood pressure is given in millimeters of mercury.

that the difference may be considered as coming well within the limits of error. The figures given by Impens for this animal accord fairly well with the results obtained by myself in experiments on ten rabbits made before I had read Impens' paper.

From those experiments I had concluded that 25 parts of isopral equaled in effectiveness and toxicity 40 parts of hydrated chloral. It is not necessary to give the protocol, as I am willing to accept Impens' figures for rabbits with the reservations mentioned.

Wassermeyer[6] reports that he used isopral in doses varying from 0.5 gm. to 2.5 gms. If we accept 40 to 25 as the ratio of toxicity of isopral to that of hydrated chloral, 2.5 gms. of isopral is equivalent to 4 gms. of hydrated chloral or, if the ratio be 2 to 1, 5 gms. of hydrated chloral, an amount which no careful clinician would venture to employ.

Kress[7] used isopral in doses of from 0.5 gm. to 0.75 gm., and particularly advises caution in its use in cases of disease of the heart and vessels, urging that it be employed only occasionally, because we know nothing of the injury resulting from its continued use or from its decomposition products.

In conclusion, I wish to reiterate my belief that my experiments on rabbits and cats and Impens' experiments on rabbits show that there is no essential difference between the action of isopral and hydrated chloral in effective doses on the respiratory centers, while my experiments on dogs show that isopral is more than twice as active in depressing the vasomotor and respiratory centers and the heart, my figures for the relative toxicity almost precisely corresponding to those given by Impens for the relative effectiveness of the two drugs for the dog.

Cautious clinicians will not experiment with isopral except in carefully selected cases.

It seems almost superfluous to add that isopral, like hydrated chloral, is wholly unsuited for use in those cases in which sleeplessness is due to pain, since it is an anesthetic only in extremely dangerous doses.

My thanks are due to two of my students, Messrs. Rulison and Flagg, for assistance in certain of these experiments.

Loomis Laboratory, 414 East Twenty-sixth Street.

PARANOIA, ITS VARIETIES AND MEDICO-LEGAL IMPORTANCE.*

CHARLES W. BURR, M.D.
Professor of Mental Diseases in the University of Pennsylvania.
PHILADELPHIA.

Psychiatry is the most backward of the sciences. This is not surprising because it deals with the most complex problems and has received but little aid from psychology, the study of the normal mind. So long as we are ignorant of the processes of normal thought and of the relation of brain to mind our knowledge of the processes of morbid thought must remain far from complete. The study of each, however, will help the other, and one of the most encouraging signs of the times is that psychologists, or some of them at least, are now studying the matter clinically and comparing the normal with the abnormal.

As a result of our comparative ignorance, the classification of the types of mental disease is most unsatisfactory. This is to be expected, for science is nothing other than classified knowledge. At present, classification is not scientific and accurate, but unscientific, inaccurate and necessarily in some degree untrue. The use of the same word to mean different things and of different words to mean the same thing increases the difficulty of classification. There is no authoritative and accepted nomenclature. Thus, the word paranoia, which when introduced into modern medicine was given a fairly clear and definite meaning, has come to be vague or, if you prefer a gentler word, wide in its significance. A learned English writer has pointed out that if it be accepted in all its meanings and dementia præcox in all its meanings, then all men suffering from any form of alienation have either paranoia or dementia præcox. The difficulty of classification is further increased because there are at present two divergent streams of psychiatric thought: one tries to simplify matters by proving the unity of all mental disease or at least by classifying all types of insanity under a few heads, the other attempts to clarify knowledge by multiplying types and separating from each other forms of disease, which, while identical in essentials, differ in non-essential symptoms. The final outcome will doubtless be increase of knowledge, but the present temporary result is confusion.

Unsatisfactory as classification is, every one admits that all forms of mental disease may be divided into two great types: first, the accidental insanities, so-called, in which heredity plays a smaller part and stress of life and bodily disease are the predominating causative influences; second, the insanities of degeneration, in which heredity is the one great cause, and the disease the inevitable result of the conjunction of a germ cell bearing the potentialities of certain qualities with a sperm cell bearing certain other abnormal potentialities. The disease begins with conception and the result, in the biologic not the theologic sense, is predestined, and comes to pass independently of the presence or absence of external stress or bodily disease.

Paranoia is one of the most interesting examples of the degenerative insanities. Owing to confusion in classification, the opinions of authors vary much as to just what should be included under the term, and all that I can do is to describe, briefly, paranoia as I have seen it and to trust that I shall not add to the already existing confusion. Since paranoia is a disease of personality and character, its description is difficult because the symptoms vary as the congenital temperament varies, and, since no philosopher has ever succeeded in classifying the numerous types of normal men, the classification of diseased men is not easy.

The paranoiac, then, is the product not of environment, but of heredity. He is the victim, not of external stress or bodily disease, but of internal, inherent, congenital weakness. The inheritance is rarely direct; that is to say, a paranoiac parent rarely has paranoiac offspring, but always there is a bad strain in the family; some form of insanity, marked excentricity, pseudogenius, epilepsy, hysteria, alcoholism, or criminality. Statistics from hospitals do not agree with this statement, but hospital data as to family histories, as a rule, are incomplete.

In private practice it is much easier to obtain correct histories and I have never known a true paranoiac, whose lineage I knew, who did not show some ancestral defect.

6. Berlin klin. Wochschr., xlii, 1180.
7. Berlin klin. Wochschr., xlii, 487.

*An address read at the meeting of the Philadelphia County Medical Society, April 10, 1907.

I have never known a boy or girl of biologically good family history to develop paranoia. It must be admitted, however, that the personal equation of the investigator counts in deciding what constitutes a bad ancestry. Thus, from my point of view, one type of saintliness makes a bad father or mother. I mean the hard, rigid, ultra-religious person who thinks all pleasure sin and all beauty from the devil, who thinks so constantly about what is going to become of his soul as to forget he has other duties in the world, who forgets that possibly to give pleasure to others is "to acquire merit," who represses all manifestation of pleasurable emotion and who, in truth, is a supreme egotist masquerading as an altruist. Such a person is biologically a bad parent.

In studying the influence of heredity it must be remembered that the child is not simply the sum of his parents and grandparents and in gradually lessening degree of his earlier ancestors, but that one child may inherit predominately or even entirely from one near ancestor, another from another. Again, inheritances may either reinforce or neutralize each other or so combine as to bring a product unlike any of the primary constituents. Things inherited do not show themselves in early life only, do not all come to the surface then, but throughout life and at one time one inheritance may be most patent, at another time some other. Sometimes there is a continuous struggle through life between different inherited influences. We do not inherit moral or intellectual qualities, but merely their potentialities. We inherit brain cells which react this way or that way to stimuli and the reaction, not the cell itself, is the emotional or intellectual quality.

Before studying the development of the symptoms and the gradual unfolding of the entire picture of paranoia it will be well to consider the main and essential symptoms present when the disease is at its height. The essential symptoms, then, are intense, indeed supreme egotism, delusions of persecution and of grandeur which are always systematized and always reasoned about, absence or perversion of the moral sense and an apparently strong but really weak intelligence. The important minor symptoms are hallucinations, falsification of memory and sexual perversions. A negative symptom of some importance is the entire absence of any sign of physical disease either of the central nervous system or of the abdominal or thoracic viscera. Anatomic abnormalities, the so-called physical stigmata of degeneration, when dealing with large numbers, are no more frequent than in the general population, though individual patients sometimes show many marked signs.

More important than the mere list of symptoms is their mode of development and gradual evolution. Paranoia lasts throughout life and influences almost every act and more or less controls all conduct. The history of a case of paranoia is the biography of the man. As it is a disease of personality, the superficial aspect of any case varies from time to time, indeed from day to day, and, since the paranoiac has different moods, even as we have, and since sometimes his delusions may submerge themselves or he may consciously and voluntarily be able to hide them for a time, it is impossible to make a diagnosis from one examination unless the patient's previous history be known. To know a paranoiac, as some one has said, the physician must not make a study of a cross-section of his life (one day), but of a longitudinal section (many months or even years).

Let us now go back a little and, leaving individual symptoms, study the evolution of the disease. Though the greater number of patients do not present marked evidences of insanity till sometime between the twenty-fifth and thirty-fifth year and are not until then regarded as seriously ill and, though often, to the lay mind, it appears that the onset is sudden on account of some outbreak of violence or excitement, yet really the onset is slow. There is a prodromal period of years and the beginnings of abnormal manifestations occur, as a rule, at puberty or during adolescence. This is not to be wondered at, for the growth of sexual feeling and power is closely associated with emotional and intellectual growth. The world of the adolescent is altogether unlike that of the child and puberty is the greatest internal stress to which man is subjected. The symptoms, then, are prone to make their first appearance somewhere between the fourteenth and seventeenth year. At first they are insignificant; no one pays any serious attention to them, and they are regarded as evidences of viciousness or bad breeding. The first symptom is change of character. The boy who previously was intellectually ordinary or perhaps precocious begins slowly to alter, or instead of there being a steady decline there may be successive rapid falls, he remaining for a longer or shorter time at each succeeding level. He had the crude but real generosity of the healthy boy; he grows selfish. He had love and respect for his parents; he becomes unaffectionate, impertinent and resentful. He had the virtue of the average boy; he is vicious. He was truthful; he now lies, often for the pleasure of it, and always plausibly. He was popular among, or at least not disliked, by his school mates; he becomes more than unpopular. He was social; he is unsocial. He was physically alert and properly fond of play; he is physically languid and wants to lie abed. He had the unconscious grace of movement of the healthy youth; he is clumsy, awkward and his gait slouching. He stood well at school, or at least as well as a healthy boy ought; he falls back, and, though he is full of excuses and plausible and may study some one subject well, or make pretense to be deeply interested in books far beyond his power and age, he is always behind and can not keep up with his class. He almost surely masturbates and may show the beginning evidence of any form of sexual perversion.

At a time when he should be making school boy love and suffering from the milder attacks of love sickness he will have nothing to do with girls. This goes on for months or even for several years. He varies from time to time. Now there seems to be some improvement, now rapid degeneration. No one suspects disease. Everybody blames him. No one can tell what the future will be, save that it almost certainly will be evil. No one can tell whether he will be a criminal, a dement, a mattoid or a paranoiac. No one can even say with certainty that he has not a chance to recover mental equilibrium.

Though he may not fulfill the promise of childhood, yet he may become a fairly normal man, at least a harmless one, able to take care of himself. Such recoveries do occur. But in those doomed to paranoia, sooner or later, usually in the twenties or early thirties, distinct signs of insanity appear. As selfishness increases it expands into supreme egotism and vanity. The patient becomes suspicious, often of those of his own household, and thinks they do not treat him right and that he is superior to them. Soon he is alienated from them. Suspicion becomes deeper and reaches the dignity of a

delusion of persecution. Vanity and egotism bring delusions of grandeur. What particular grandiose delusion develops depends on many known and unknown factors. Probably education and environment determine the matter much more than ancestry. Sometimes it looks like mere accident and chance. Probably in erotic paranoia heredity always determines the delusion.

The country-bred youth who has never seen or heard much talk of factories and machinery will scarcely come to believe that he is a great inventor. The weak-minded youth or man, whose intellectual food is "the yellow press" and anarchistic oratory, may well come to believe he is appointed by God to save the country by murdering its ruler. He whose ambition outruns his wits may develop almost any kind of grandiose delusion.

What makes him take up one delusion of persecution rather than another also may be plain or undiscoverable. Whatever the subject of his delusions may be, those of persecution usually come first or are at first more patent and those of grandeur are used to explain the persecution. Certain subjects, love, religion, politics or science, are particularly likely to be chosen for the delusions. Whatever the delusions may be, the patient reasons about it. The reasoning is, of course, always faulty, but superficially may seem logical. Thus, he knows people are persecuting him because they look at him so strangely, or they are talking about him because when he comes near them they look guilty and cease talking. He reads meanings into letters and newspapers that are not there. He misinterprets things said to him. Almost always there is some slight truth on which he builds his delusion. Further, though there may be several delusions, they all pertain to one or at most a few subjects and concern some central idea. Another characteristic is their permanence. They last for years and fade out only when mental feebleness has become marked. Falsification of memory is common both in the sense of remembering things that never happened and in the sense of drawing, years afterward, some false deduction concerning an event.

Much is said of the intellectual strength of the paranoiac, but it is apparent rather than real. He is usually, but not always, in the earlier stages, a great talker, though some are sullen and silent throughout. At that time he argues about all things and has opinions about everything. He is always right, the rest of the world wrong. He is plausible and may make a great impression on those who know nothing of what he is talking about. This plausibility is one of the things which make him dangerous, because sometimes he can give such apparently good reasons for his belief that he is persecuted that kind-hearted persons are led astray. He is cunning and for a purpose can hide his delusions for a time, but his vanity is his weakness and by an appeal to it he can be induced to show what he thinks and believes. From the start there is intellectual weakness, but not a true dementia till very late. He reasons, but his reasoning is crooked and perverted.

The moral sense lessens steadily from the beginning until it is absent altogether. The paranoiac has no feeling of altruism and gets no pleasure from giving pleasure. The pain and troubles of others cause no pain to him. Whether he becomes a criminal depends on circumstances and on whether or not he has the pseudocourage necessary to commit murder. He is always a liar and frequently has perverted sexual instincts. Erotic and political paranoiacs are the type most prone to commit serious crime.

I wish also to say a few words about the mattoid, because, by not a few authorities, he is classed with the paranoiac, though he differs in some respects. The mattoid may best be defined as the imbecile dreamer of great dreams without power of accomplishment. He has been well described by dramatists and novelists. Indeed, the great poets, novelists and dramatists are better clinical psychologists than some professional psychiatrists.

Thus, Daudet, in his novel, "Jack," has described one kind of mattoid with relatively few words and in language that every one can understand. You will remember he was a poet who only thought he was a poet. He bought several reams of nice note paper and several gross of pens and then each afternoon shut himself up in his room with a sufficient quantity of beer and left word with his servant he must not be disturbed because he was composing his great epic. Nothing of the poem save the title was ever written. He was worthless, garrulous, plausible, hypocritical, seemingly brilliant and at heart criminal. Indeed, vanity, intellectual conceit and selfishness associated with mental feebleness are the great qualities of the mattoid.

Sexual perversion, which, of course, occurs in many other conditions and may be merely vice, is not infrequent and may vary in intensity from the most bestial habits to a mere sickly but harmless estheticism. The mattoid is prone to have an appetite for drink or drugs which he uses to increase his dreaming ability. Sometimes, however, he is temperate or even abstemious. His dreams and his thoughts of greatness usually concern what he would call "the higher things." In his own mind, he is a poet, a painter, a dramatist, or a philosopher, who has solved, but never to the satisfaction of any one else, the riddle of the universe. He thinks the esthetic quality is highly developed in him and that he is of finer fiber than the poor creatures who live around him. He often has much religiosity.

He is often a reader of books he does not understand. He often writes and sometimes gets printed books on fantastic subjects no one can understand. The paranoiac does the same and sometimes does it better. He differs from the paranoiac in that, though he may feel that the world has used him badly and not given him the credit he deserves, yet he does not develop real delusions of persecution. He hopes on for recognition to the end. Though he, also, is extremely conceited he never gets delusions of grandeur; he never thinks he is pope, cardinal or king, God or the devil. He never hears voices or has visual hallucinations. His dreams are self-induced and recognized to be such. He is rather proud of his ability to day-dream. He is always lazy and indolent. Selfish though he is and much as he will impose on a poor wife or mother or any one who will slave for him while he dreams, he rarely commits serious crime, and if he does murder it is, as a rule, from the same motives as the average man. He is not entirely devoid of moral sense. His disease soon reaches its height and then remains stationary. He rarely develops dementia. If he becomes distinctly insane in the technical sense, save in old age, it is caused by stress, alcohol or drugs. He runs his course for many years useless and a parasite and dies.

The recognition of paranoia is difficult because many cases are not typical; all do not run the same course, all do not show the same wealth of symptoms; many are mere aborted or fragmentary cases. Some one has used the illustration that if the thick end of a wedge be used

to typify complete paranoia, cases will be found less and less typical and less and less serious till at the thin edge it is impossible to say whether the patient is normal or diseased.

There is, indeed, a great borderland of wide extent and indefinite boundaries wherein live many people whom it is impossible to classify as either sane or insane. At times they seem normal, at other times abnormal. We all know people who throughout life are suspicious, resentful, egotistic and perverse in their manner of reasoning, but who would never commit any of the grosser crimes, and yet are continually doing little social crimes which show a lessening of the moral sense and who lead miserable and unhappy lives not on account of any external stress or because they have had any serious trouble, but because they are born so.

Again, there is the man who with much conceit and little resentment and not much suspiciousness never gets along in the world though he is ambitious and always busy, always doing things, always inventing something that will not work or would be useless if it did, or preparing ways to hasten the millennium or doing other similar things. We have all met the litigious paranoiac. He is the man who is always going to law over trifles. In the worst cases he will spend his all to prove his rather worthless rights. Even in erotic paranoia there is every grade.

To still further complicate the matter some men of great talent or even genius present fragmentary evidences of paranoia. There have been men who did much for the progress of the world whose vanity was supreme and whose conduct was vicious in the extreme; men who did things not from any altruistic instinct, but simply from the pride of ability. Some have even been distinctly delusional. There have been others whose ability was restricted in extent, but prodigious in intensity, who were cranks and queer all their lives—the men of much uncommon but no common sense. There are others who, distinctly paranoid in the eyes of those competent to judge, yet have intelligence enough to deceive the public or a large part of it for years and to live well on generous dupes. Some patients with aborted paranoia have no moral defect. Their disease is purely intellectual.

Paranoia never shortens life. Most patients live to old age; none recover. The intensity of the symptoms may vary from time to time and the quiet and discipline of a well-regulated hospital may cause the delusions to become submerged temporarily, but they emerge again. Dementia finally ends the scene.

If this were all, complex as the problem is, the diagnosis would be relatively simple compared with the reality. Unfortunately, however, there is the so-called secondary paranoia. In other words, in alcoholism, in senility, following certain acute maniacal and hallucinatory states, and in one form of adolescent insanity there occur periods which, taken by themselves and considered without regard to the past history and, of course, without knowledge of the future, present a more or less resemblance to true paranoia. As a rule, in these cases there is a large element of dementia, and hence the ability to reason is far less than in paranoia. Then, too, hallucinations play a much larger part than in primary paranoia. Indeed, many of the delusions are based on remembered hallucinations; e. g., visions of God and the Holy Ghost or voices threatening injury. Sometimes subjective bodily sensations are interpreted as being caused by poison or electricity. Thus, paresthesia of the hands and feet are thought to be caused by batteries worked by enemies.

Whether or not there is any kinship between primary and secondary paranoia is a matter of opinion. Some instances of the so-called paranoid type of dementia præcox look like, and indeed probably are, very rapid cases of true but atypical paranoia. They run the entire course of the disease, ending in complete dementia in a few months. Why certain persons suffering from alcoholic insanity, mania or senile insanity should develop paranoid symptoms can not be determined with certainty, but it is probable that in them the congenital tendency to paranoia, though present, is not sufficiently strong to show itself until bodily disease or stress of life has weakened them.

Paranoia is of medicolegal interest, because its victims are often so intelligent as to appear to be entirely responsible for their conduct and because they often come in conflict with the law. Compared with the total number of patients, crime is not frequent among paranoiacs, but many of their crimes look like the acts of sane men and are carefully planned and cunningly done. They also, of course, may commit crime under the influence of sudden impulse. Many who never commit a felony cause much trouble and fear by writing threatening letters or obscene love letters to people whom they do not know or scarcely know. As it is impossible to foretell whether or not threats will be followed by action, the result on the peace and happiness of the recipients of the letters may be serious.

Some paranoiacs have a delusion that some particular person or group of persons has stolen money from them or is keeping them out of an inheritance or has misappropriated a trust fund and will bring or attempt to bring suit to recover or, taking the law in their own hands, kill the suspected persons. Erotic paranoiacs sometimes murder the persons for whom they have developed an insane love. Some paranoiacs who have never been declared insane make wills which later come into dispute. Very often they develop delusions of infidelity concerning husbands or wives and abuse the object of their delusion so that separation is imperative if they can not be confined in an asylum. In determining whether an alleged paranoiac is really sane and responsible for a crime, competent to take care of himself, and able to understand the nature of a contract, or insane and ought to be restrained in an asylum, have a guardian appointed for his estate, or be relieved from the consequences of a contract he may have undertaken, the same factors come into consideration as in any other alleged insane person. The physician's duty in court cases is simply to discover the mental condition of the patient. That having been done, the question of the responsibility or irresponsibility, competency or incompetency of a man in his mental state is a matter of law and to be decided by judge and jury.

A Journal to Discuss Borderland Questions of Theology and Medicine.—A German physician and clergyman have combined to publish the *Zeitschrift für Religionspsychologie*, to be issued by K. Marhold, Halle, Germany. The aim of the publication is to develop a healthy religious life—the "psychagogies of practical theology;" to study the anomalies in religious life, the hypernormal and hyponormal manifestations, and the development of the religious life in all ages and countries and under various influences. The *Münch. med. Wochschr.* states that the first number has already appeared and contains articles on "Biblical Religious Psychology," "Religious Conscientiousness," and "Obsessions and Religious Practices."

THE PATHOGENESIS OF HEMOGLOBINURIC FEVER.

WILLIAM H. DEADERICK, M.D
MARIANA, ARK.

Blackwater fever is shrouded in mystery, its study, from etiology to treatment, disclosing problems as yet unsolved.

It is generally conceded that the disease (if it may be so called) consists of a destruction of red blood cells so widespread that the liver, being powerless to transform the liberated hemoglobin into bile pigment, the greater part is excreted by the kidneys. This conversion into biliary coloring matter is the physiologic fate of free hemoglobin and, indeed, its pathologic destiny up to a certain limit—which, according to Ponfick's postulate, is the destruction of one-sixth of the entire number of red cells—beyond which hemoglobinuria ensues. This much seems to be rather unanimously accorded. The nature of the hemolysin is the missing link in the pathogenetic chain.

That the blood destruction and consequent hemoglobinuria are due directly to the malarial parasite is maintained by some. Geographic distribution favors the assumption of a close relation between malaria and blackwater fever, since the latter does not occur endemically except in highly malarial places. It is true that cases have developed in individuals from malarial foci after reaching non-malarial localities, as reported by Manson,[1] Sambon,[2] Crosse,[3] Kleine,[4] Schlayer, Mowbray,[5] Laveran[6] and others, but this does not controvert the former proposition. Hemoglobinuric fever occurs as a rule in those who have dwelt in the endemic locality at least several months and usually from two to four years.

Malarial infection appears to be a *sine qua non*. This nearly always precedes the hemoglobinuric attack, but may possibly be concomitant, as in cases mentioned by Plehn,[7] Doering,[8] Tomaselli, Cardamatis,[9] Mould,[10] Sambon,[2] Curry[11] and others, though in some of these cases, certainly, antecedent malaria is not excluded. There is also the chance that paroxysmal hemoglobinuria and bilharzia disease might be confounded with true blackwater fever. A few cases of hemoglobinuria have been reported in which it is claimed there neither was nor had been any malarial infection. If this is true it is probable that these were not hemoglobinuric fever but cases of pure quinin poisoning, as this drug had been administered immediately preceding the outbreak of each of these cases.

In an overwhelming majority of cases the disease occurs in persons who have suffered from repeated attacks of malaria, though cachexia, while not infrequent, does not seem to be essential for an outbreak.

The relative rarity of hemoglobinuric fever in the negro probably favors the malaria theory as opposed to the pure quinin theory. It is known that this race manifests at least a degree of immunity to the effects of malaria. Secondly, immunity to disease is more frequently evinced than racial susceptibility to drugs.

The hemoglobinuria occurring in Texas fever of cattle and that of sheep, goats, horses, mules and dogs is cited, with some show of reason, as an argument for the purely malarial origin of blackwater fever. There are essential differences, however, in the occurrence of blackwater in malaria and in Texas fever. First, malaria is followed by blackwater in a very small per centage of cases, malaria being common, hemoglobinuria much rarer; in Texas fever blackwater is a common symptom occurring in a large percentage of severe cases. Second, in blackwater fever in man the number of parasites shows no proportion whatever to the severity of the disease, being frequently absent, and if present at the onset usually disappear during the course of the disease. In Texas fever, on the other hand, the number of parasites is in direct relation to the severity of the process and increases as a fatal termination approaches. In human malaria the parasites may exist in very large numbers without the development of hemoglobinuria; this is not the case in Texas fever.

The parasitic findings in hemoglobinuric fever are at great variance. A Plehn[12] states that he seldom found them soon after the outbreak and only exceptionally later; F. Plehn[7] found no parasites; Marchiafava and Bignami[13] report them absent in numerous cases; Koch[14] detected parasites in 2 out of 16 cases; Sambon[2] says that they are absent in a considerable proportion of cases; Nocht found them in 75 per cent. of cases; Cardamatis[9] in 4 of 25 cases; Ollwig[15] in 6 of 15 cases; Crosse[3] pronounces them frequent; Bertrand[16] found them in almost all cases; Shropshire[17] in 41 per cent. of cases; Hanley[18] in none of 13 cases; Brem[19] in 2 out of 14 cases: Foustanos[9] states that they are often absent; Powell found parasites in 5 out of 11 cases; Vincent in 1 out of 5; Mense[20] states that crescents are frequent, but often no parasites are found; Bastianelli and Bignami found them in each of the several cases they examined; Poole in only a limited number of cases after careful search; Stephens and Christophers[21] in one series found them in 12.5 per cent. of cases; A. Plehn[12] in many, and Doering[8] in almost all cases, while Laveran[6] usually found them in the beginning. The following figures show the difference in results of examination at different periods of the disease.

Stephens and Christophers:[22]
Day before attack parasites present in 95 per cent. of cases.
Day of attack parasites present in 70 per cent. of cases.
Day after attack parasites present in 20 per cent. of cases.
Mannaberg:[23]

1. Tropical Diseases, New York, 1903; Brit. Med. Jour., May 16, 1903.
2. Practitioner, March, 1901; Brit. Med. Jour., Sept. 24, 1898; Jour. Trop. Med., April 15, 1899.
3. Blackwater Fever, London, 1899; Lancet, Jan. 6, 1900; Brit. Med. Jour., Oct. 8, 1898.
4. Brit. Med. Jour., Sept. 14, 1901.
5. Lancet, Aug. 26, 1905.
6. Paludisme et Trypanosomiase, Paris, 1905.
7. Deutsche med. Wochschr., 1895, 25-7; Arch. f. Sch. u. trop. Hyg., November, 1899; Tropenhygiene, Jena, 1906.
8. Deutsche med. Wochschr., 1895, 46.
9. Grèce Méd., April, 1900.
10. Brit. Med. Jour., Sept. 9, 1899.
11. THE JOURNAL A. M. A., May 3, 1902.
12. Die Malaria d. afrikanischen Negerbevölkerung, Jena, 1902; Arch. f. Sch. u. trop. Hyg., August, 1899; ibid, December, 1903; Deutsche med. Wochschr., 1902, 38.
13. Malaria, New York, 1900; Summer-Autumn Malarial Fevers, London, 1894.
14. Arbeiten aus den Kaiserlichen Gesundheitsamt, 14, 2, Jour. Trop. Med., July 15, 1899, Nos. 1, 12 et seq.
15. Med. Berichte ü. d. Deutschen Schutzgebelte, 1903-4.
16. Ann. D. Soc. Med. Chir. d'Anvers, November and December, 1899.
17. THE JOURNAL A. M. A., Sept. 5, 1903.
18. Jour. Trop. Med., 1899, p. 85.
19. THE JOURNAL A. M. A., Dec. 8-15, 1906, pp. 1896-1992.
20. Handbuch der Tropenkrankheiten, Iii, 1, Leipzig, 1906; Archiv. f. schiffs-und trop. Hyg., April, 1899; ibid, August, 1899.
21. Reports to the Malaria Committee of the Royal Society; 5th Series, London, 1901, p. 24.
22. Practical Study of Malaria, London, 1904.
23. Malarial Diseases, Philadelphia, 1905; Parasites of the Malarial Fevers, London, 1894.

Day before attack parasites present in 95 6 per cent. of cases.
Day of attack parasites present in 63 per cent. of cases.
Day after attack parasites present in 17.1 per cent. of cases.

The form of parasite found is, in the great majority of cases, the estivoautumnal. In fact, Marchiafava and Bignami[13] state that all cases in which the parasites have been found have been of the estivoautumnal variety. This statement, however, will not now hold. Ruge,[24] Mannaberg[23] and Sambon[2] declare that the disease may follow tertian and quartan infections. Hughes,[25] Ollwig[15] and Brem[19] have each reported one case, Plehn three cases and Koch[14] five cases in which the large tertian parasites were found, and Otto[26] reports one following quartan infection. Previous infection with estivoautumnal parasites may have occurred in these cases or a mixed infection with this variety existed, the parasites escaping detection, as sometimes happens if the examination is not made at the proper time or is not sufficiently thorough. Moreover, the fact that parasites other than the estivoautumnal have been found is no argument against the malarial nature of blackwater fever, since cases of pernicious fever in which only the large tertian parasites were found have been reported by French, Ewing[27] (2 cases) and Ziemann.

It appears certain that attacks of hemoglobinuria are less frequent and less severe after the systematic prophylactic use of quinin. Moffatt[28] believes that the mortality is thereby diminished; Hofft and Wendland[29] believe that quinin lessens the frequency; Crosse[3] and Hopkins[30] assert that they never knew a case to develop in one who systematically used quinin. A. Plehn,[12] who has studied this subject carefully, claims that the systematic use of quinin is even a better prophylactic of blackwater fever than of simple malaria. Even Tomaselli believes that hemoglobinuria does not appear during quinin prophylaxis without malarial infection. As mentioned below, Wendland,[29] Plehn and Tomaselli believe in the power of quinin to precipitate an attack of blackwater fever. These two views, apparently paradoxical, are not incompatible, as will be shown later.

Blackwater fever is regarded as of malarial origin by A. Plehn,[12] Schellong, Banks, Beyfuss, Garcia Van der Scheer, Laveran,[6] Burot, Legrand, F. Plehn,[7] Rees, Marchiafava and Bignami,[13] Crosse,[3] Hopkins,[30] Mannaberg,[23] Quennec,[31] Kanellis, Hanley,[18] Foustanos,[9] Cardamatis[9] and others. Even Tomaselli, who looks on quinin as the exciting cause, holds previous malaria essential. Calmette, Vincent and Manson[1] doubt the malarial nature, and Sambon[2] and Stalkarrt[32] oppose the malaria theory. Koch[14] is probably the most vigorous opponent of the theory that relates it to malaria.

Some writers, as Quennec,[31] Grocco, Rho, Dryepondt, Thin,[33] Crosse[3] and others, believe that in addition to the mechanical destruction of the red cells by the parasites the latter give off toxins which have hemolytic power. Reviewing the evidence for and against the malarial nature of the disease we find favorable: 1, geographic distribution; 2, race, probably supports malarial theory; 3, length of residence in endemic locality; 4, malarial history; 5, attacks rarer and milder during quinin prophylaxis; 6, frequent presence of malarial parasites.

Adverse to the malarial origin are the facts that it is known that the parasites are not always present, that when found they are not in numerical proportion to the severity of the disease and that they usually disappear as the disease progresses. Parasites may be very numerous in malaria without the appearance of blackwater.

My opinion of the relation of hemoglobinuric fever to malaria is that the latter is essentially and solely the predisposing cause, and that in some cases it may also act as the exciting cause.

S. Berettas, in Greece, in 1858, first announced a causal relation between the administration of quinin and an outbreak of blackwater. Tomaselli defended this view in Italy, and more recently Koch[14] has directed attention toward it.

That quinin may cause hemoglobinuria under certain conditions is maintained by Laveran,[6] Calmette, F. Plehn,[7] Tomaselli, Koch,[14] Mannaberg,[23] Ruge,[24] Kohlbrugge,[34] Dempwollf, Foustanos,[9] Cardamatis,[9] Kenellis, Ketchen,[35] Ollwig,[15] Wittrock, A. Plehn,[12] Stephens and Christophers,[22] Wendland[29] and others, while the opposite opinion is held by Carre, Etienne, Van der Scheer, Burot, Legrand, Vincent, Sims, Donny, Dryepondt, Quennec,[31], Beyfuss, Schellong, Reynolds, Dinitsch, Hanssen, Boetz, Mense,[20] Stalkarrt,[32] Moffatt,[28] Hopkins,[30] Bertrand,[16], Sambon,[2] Buchanan, Battersby, Rees, Johnson and others.

The "quininists," including Tomaselli and Koch,[14] do not go so far as to say that the quinin alone is responsible for the development of blackwater fever, but assert that it is the exciting cause in predisposed individuals, this predisposition usually incurred by repeated malarial attacks. Further than this not even Koch[14] maintains that quinin is the exciting cause in all cases, but he admits that although he has seen no case of blackwater fever in which quinin poisoning could be excluded, he could not go so far as to maintain that every case of blackwater fever is quinin poisoning. Tomaselli states that malaria preceded all his cases. Most of the adherents of the quinin theory assume not only a predisposition through malaria but also a special idiosyncrasy toward quinin.

Quinin being a specific for malaria, and hemoglobinuria occurring in malarial subjects, it is but a most natural sequence of events that a large number of the cases of hemoglobinuric fever have developed after the administration of quinin. In many cases the relation here is undoubtedly one of occasion and not of cause. It seems certain that cases following the administration of quinin in which the drug had been well borne previously and fails to elicit an outbreak after subsequent doses can not be attributed to the quinin.

In the literature, however, there are cases in which recurrences could be produced repeatedly at will by a dose of quinin as certain cases of paroxysmal hemoglobinuria could be excited by the action of cold. The most striking example of this is the case of Murri.[36] Manson,[1] Ketchen,[35] Hopkins,[30] Bertrand,[16] A. Plehn,[12]

24. Einführung in d. Studium d. Malariakrankheiten, Jena, 1906.
25. Jour. Trop. Med., June 1899.
26. Deutsch. med. Wochschr., 1902, 4.
27. Jour. Exp. Med., Feb. 5, 1902.
28. Brit. Med. Jour., Jan. 25, 1902.
29. Wendland: Med. Berichte, über d. Deutschen Schutzgebeite, 1903-4.
30. Dublin Jour. Med. Sci., June, 1903.
31. Arch. f. Sch. u. trop. Hyg., April, 1899.
32. Brit. Med. Jour., Sept. 9, 1899; Jour. Trop. Med., October, 1899.
33. Brit. Med. Jour., Sept. 1, 1900.
34. Arch. f. Sch. u. trop. Hyg., April, 1899
35. Brit. Med. Jour., Nov. 10, 1900.
36. Deutsche med. Wochschr., 1896, 8-9.

Koch[14] and others have also reported such cases all in malarial subjects.

That quinin is not always the exciting cause is fully attested by the numerous cases in which no quinin had been given, as reported by Mense,[21] Rothschuh, F. Plehn,[7] Marchiafava,[13] Celli, Bignami,[13] Bastianelli, Van der Scheer, Beyfuss, Baldwin Seal,[37] Von Diesing, Powell, Schellong, Laveran,[6] Quennec,[31] Navarre, Reynolds, Etienne, Sims, Donny, A. Plehn,[12] R. Plehn, Doering,[8] Dempwollf, Brin, Rankin, Thin,[33] Cardamatis,[9] Moffatt,[28] Hopkins,[30] Sambon,[2] Cargill, Crosse,[3] Hearsey,[38] Curry,[11] Brem,[19] Shropshire[17] and others.

With due respect to the opinions of those who adhere to the quinin theory, there is no doubt but that the manner in which this question has been handled by some has been productive of harm, inasmuch as in some sections it has brought the specific into discredit, not only with the laity but with the profession. It is no argument against the benefits of vaccination to parade the fatalities that have resulted.

Inasmuch as malaria always is or has been present in hemoglobinuric fever and we know that the immediately previous administration of quinin can be excluded in a not inconsiderable percentage of cases, we are justified from this alone in attributing a much more powerful etiologic influence to malaria than to quinin. And when we find that in many of the cases which might by some be regarded as due to quinin this drug had been administered repeatedly under similar conditions without an outbreak and subsequently well borne, the number of cases in which quinin might justly be said to excite an attack dwindles considerably.

The rôle of quinin in this condition is probably highly complex. It has been shown that it is of value as a prophylactic when systematically employed; if not thus used and malarial infection be permitted to occur it may, in some persons thus predisposed, precipitate an attack. In the attack itself it may be of value in destroying the parasites when these are present or it may act harmfully in aiding hemolysis.

The belief that blackwater fever is due neither to malaria nor quinin, but is a disease *sui generis*, is defended by Manson,[1] Sambon,[2] Stalkarrt,[32] Rho, Kohlbrugge,[34] Donny, Yersin and others. There is so little to support this view that it hardly seems necessary to discuss it.

The theory that green beans and their blossoms were the cause of many cases of blackwater fever seems to have perished in Greece, where it originated.

The modern study of immunity and cytolysis has thrown a flood of light on hemolysis. It is unnecessary to review in detail the development of our knowledge of hemolysis, but the following facts will be recalled. It has been known for some time that the serum of certain animals had the power of dissolving the blood corpuscles of certain other animals. Bordet showed that this effect may be produced artificially. The serum of guinea-pigs naturally has no hemolytic effect on the red cells of the rabbit, but if rabbit's blood is injected into the guinea-pig and the process repeated the serum of the guinea-pig becomes hemolytic toward the rabbit. It has been shown that the hemolysins are formed by the interaction of two substances, one the amboceptor or immune body resisting moderate degrees of heat, the other called the complement inactivated by a temperature of about 55 C. Neither amboceptor nor complement alone is sufficient to dissolve erythrocytes, but for this it is necessary that both act, the amboceptor sensitizing the cells for the complement. The amboceptor may act alone, but the cells will only be rendered susceptible, not dissolved. The complement has no effect whatever on the red cells except through the immune body. The complement exists in normal serum. The formation of an antihemolysin is thus stated by Wassermann:[39]

> A specific hemolysin, one for example, specific for rabbit's blood, derived by treating a guinea-pig with rabbit's red cells, is highly toxic to rabbits. Injected into the animals intravenously in doses of 5 c.c. it quickly kills the animals, causing *intra vitam* a solution of red cells. Such a hemolytic serum then acts the same as a bacterial poison. For example, to keep to our illustration, rabbits are injected first with very small doses of this specific hemolytic serum. The dose is gradually increased until it is found that the animal tolerates amounts that would be absolutely fatal to animals not so treated. If some of the serum of this animal is now abstracted and added to the specific hemolytic serum it is found that the power of the latter will be inhibited. This shows that an antihemolysin has been formed.

Based on these facts, which have been amply demonstrated, Bignami[13] states his hypothesis as follows:

> 1, An alteration in the plasma which is effected little by little as a consequence of a specific change in the red blood corpuscles through which a certain number of them come to behave in respect to the organism like the corpuscles in the blood of another species of animal; 2, the formation in consequence of this change of a substance in the plasma which is capable, under certain conditions, of becoming hemolytic.

For the better understanding of my theory the pathogensis may be divided into the following stages: 1, erythrorhexis; 2, hepatic stimulation and production of amboceptors; 3, action of complement; 4, hemolysis and hemoglobinuria.

1. This primary blood destruction is due directly to the malarial parasite, chiefly through the act of sporulation, possibly also by the production of a toxin, though this has not been demonstrated. The hemoglobin thus liberated is carried to the liver, where it is elaborated into bile pigment. We have seen that this erythrorhexis is insufficient to account for hemoglobinuria.

2. On reaching the liver the hemoglobin is acted on by certain of the molecules or atom groups of the liver cells which have an affinity for it. When all the atom groups have been combined with the hemoglobin, which happens when this function of the liver has been frequently or recently exerted, or when the amount of liberated hemoglobin is very large, the liver is stimulated to the production of more such atom groups. This stimulation is responded to by an overproduction of atom groups, some of which gain access to the general circulation. Translated into the terms of Ehrlich's theory, it may be said that certain receptors of the liver cells have the property of transforming free hemoglobin into bile pigment; when these receptors are exhausted the deficiency is met by over-production. When the cell becomes overfilled some of these side-chains are cast off into the general circulation. Here the receptor becomes an amboceptor. The pathology of the liver in this condition fully supports the view of over-stimulation; karyokinesis and other changes in the liver cells suggest that it responds to this stimulation. In the present state of our knowledge we can not determine the chemical nature of the immune body.

3. Having gained access to the general circulation, the amboceptor meets the complement which is present

37. Jour. Trop. Med., Feb. 15, 1899.
38. Brit. Med. Jour., Jan. 26, 1901.
39. Immune Sera, New York, 1904.

in normal serum and the complete hemolysin is formed. The nature of the complement is unknown, but certain facts throw suspicion on lecithin. It is generally conceded that the complement is derived from the leucocytes which are rich in lecithin; bile, a hemolytic, is also rich in lecithin; there is over-production, stasis, and reabsorption of bile; erythrorhexis liberates the lecithin contained in the red blood cells; Kyes,[40] using the amboceptors of cobra venom, produced a complete hemolysin, "cobra-lecithid," by activation with lecithin. It can not yet be said with certainty, however, that lecithin is the complement of the hemolysin in blackwater fever.

It is highly probable that when the production of the hemolysin does not proceed with too great rapidity there is formed *pari passu* an antihemolysin which may exactly balance the hemolysin without destroying it. This is probably the symbiosis referred to by Krauss. So long as the equilibrium between hemolysin and antihemolysin is maintained no hemolysis occurs, but let this equilibrium be greatly disturbed by fresh malarial invasion, cold, fatigue, quinin or other and probably unknown factors, hemolysis occurs and hemoglobinuria ensues. Under this exact equilibrium the patient is in a condition very similar to that of paroxysmal hemoglobinuria; a close relation between these two affections has been maintained by Sambon.[2]

It is possible that a slight and temporary loss of equilibrium may result in a limited hemolysis, producing hemoglobinemia but not hemoglobinuria. In this way might be explained some cases of anemia, cachexia and postmalarial secondary fever in which the parasites, if present, are not in proportion to the results.

The exact rôle quinin plays in the etiology of the cases rightfully attributed to it is not altogether definite. It may precipitate an attack by preventing the formation or activity of the antihemolysin or by increasing the complement through the action which it has on the leucocytes.

It is believed that this hypothesis explains the occurrence of hemoglobinuric fever during and after malarial infection, with or without the administration of quinin; it explains why the malarial attack may precede by months the appearance of blackwater; why cold, fatigue, etc., may elicit an attack; why the hemolysis does not always coincide in time with the sporulation of the parasites in the cases in which the latter are present; it accounts in a measure for the complex relation with quinin and explains obscure anemia and postmalarial secondary fever. Lastly it coincides with the prevalent ideas of tropical physicians of an intimate relation between hemoglobinuric fever and "biliousness."[41]

Addendum:—Since the completion of this paper I find in the *Journal of Tropical Medicine*, March 1, 1907, a review of an article by O. Casagrandi in the Atti della Societa per gli Studi della Malaria, 1906. This investigator found in malarial blood a hemolysin, the presence of which is masked by an antihemolysin.

40. Berl. klin. Wochschr., 1902, 38-39; ibid 1903, 2-4, 42-43; ibid 1904, 19, Ztschr. f. phys. Chemie, xli, 4.

41. Other authorities which may be consulted are: Thayer: Lectures on the Malarial Fevers, New York, 1901; Smith and Kilbourne: Texas Fever, Washington, D. C., 1893; Brown: Jour. Trop. Med., Sept. 15, 1899; Connolly: Brit. Med. Jour., Sept. 24, 1898; Messerer: Des Lesions Viscerales de l'Impaludisme, Paris, 1886; Kohlstock: Deutsche med. Wochschr., 1895, xlvi; Rickette: Infection, Immunity and Serum Therapy, American Medical Association Press, Chicago, 1905.

WAX MODELS OF CASES OF LEPROSY BY FRANCIS R. DAY, OF HONOLULU.

E. S. GOODHUE, M.D.
HOLUALOA, HAWAII.

Death claimed him before he could be gratified by appreciations of his beautiful models exhibited at the last annual meeting of the American Medical Association in Boston. It was not long ago that Dr. Day showed these models to the members of the Hawaiian Territorial Society at its thirteenth annual meeting in Honolulu. He said:

Every man should have a hobby, especially if he be a physician. The eternal grind of our work favors the gradual wearing into deep ruts that are difficult to escape from when once formed. An avocation serves the useful purpose of breaking up the process of rut making. It offers relief from the brain-tiring monotony and affords mental recreation and change. Therefore, I say, every man should have a hobby. My latest is the making of wax models of skin lesions or other pathologic specimens.

While abroad a few years ago I was particularly impressed by the large and interesting collections of these models in the various European capitals, particularly the Baretta collection at the Hospital St. Louis in Paris, the Henning collection in Vienna, Kolbow's in Berlin, and Professor Neisser's in Breslau.

These models represent, in an absolutely life-like manner, all of the multitudinous manifestations of diseases of the skin, and to the dermatologists, or to any practitioner of medicine, they have a fascination and a value second only to the observation and study of the real thing. Yet in all these extensive collections there were very few examples of the disease with which we in Hawaii are all familiar, leprosy; and I considered myself fortunate, when the opportunity presented, to learn from a master the method of making these models.

Since returning to Honolulu I have been at work and am enabled to present for your inspection fourteen models illustrating the various types of leprosy, tubercular, anesthetic, macular and mixed. Some of them are of unusual interest as representing mixed effloresences, one, a case of macular leprosy complicated with scabies, another, leprous ulceration of the foot in an awa drinker. A third shows the mutilating effects of phalangeal absorption in a Portuguese woman, aged 73, who had gone forty-five years of her life with these stumps and who was recently apprehended by the United States Public Health and Marine-Hospital officials in San Francisco when she attempted to return to Portugal after a short visit to relatives in Hawaii. Of the two illustrations accompanying this article, one represents a well-marked case of the leonine countenance of advanced tubercular leprosy, and the other shows the results of leprous neuritis, the contractions, paralysis, atrophy and ulceration of the hand.

In the discussion which followed Dr. Sinclair said:

Dr. Day has shown great skill in his successful imitation in wax of the living originals, and I am sure that if Dr. McDonald were to take test snips from a few of the lesions displayed he ought to be able to demonstrate the *Bacillus lepræ*.

Dr. de Faria said:

I wish to call special attention to the model of the old Portuguese woman who was sent to Molokai some five months ago. I wish to ask the following question: Are the syringomyelia and some trophoneuroses, as the sclerodactylia for example, special forms of nervous or rather medullary leprosy, or are they different morbid entities?

This is an important question to which a definite answer has not yet been given and which is worthy of attention, since we have such a large field for investigation.

Leprosy made its first appearance in the islands some sixty years ago, and I do not know of any important study made there besides that of Dr. Arning on the transmission of the disease.

It is time that something should be done, and I hope that the federal government will soon help.

My question is based on Lambaco's investigation, which led

him to express the opinion that the syringomyelia and the anesthetic and mutilating leprosy are but clinical varieties of one and the same disease.

There are two methods of conducting observations toward the solution of this problem. The first, and most scientific and positive, is to look for Hansen's bacillus in every observed case of syringomyelia and sclerodactylia and other trophoneuroses, as well as to examine thoroughly, postmortem, the spinal cord in every case of leprosy; and the second, which is historic and comparative, consists in inquiring if the existing fields of syringomyelia coincide with those of actual leprosy. I believe that the only positive observation reported up to the present is that of a case of syringomyelia in which the lepra bacilli were found by the late Professor Camara Pestana in a pathologic cavity of the medulla after the necropsy.

The history and clinical observation of the woman the model of whose hand was presented led me to make the diagnosis of sclerodactylia, although I had suspicions of leprosy.

Dr. McDonald, the territorial bacteriologist, said:

I have had an opportunity of seeing work of this kind in museums of New York and London, but for absolute imitation of detail and perfection of coloring I have never seen anything to equal these models. I feel a personal pride in them as being made in Honolulu.

A little later, while at Dr. Day's home, it was my privilege to examine these models; they are certainly as nearly perfect as art could make them. Dr. Day told me at this time that it was his intention to present the collection to his *alma mater*, Rush Medical College. Each model was made with great care, the casts being taken by the doctor himself from lepers at the Leper Settlement where he remained for some weeks working with my brother, Dr. W. J. Goodhue, the medical superintendent of the settlement.

Whatever Dr. Day did he did well; whether at his hobby, as he was pleased to term the modelling or doing his usual professional duty, his whole soul went into his work. With patient perseverance he combined rare artistic skill and taste, as is evidenced by his sketches, etchings, burnt wood work, photography and painting, the last of which has had public recognition.

I have in my home the following motto burned on wood done by him with a modified cauterizer:

In this house we speak no ill of others.
Those who have the inclination may, after
they close our gates, talk about us.

Dr. Day leaves a grief-stricken wife, Emily Foster Day, who is well known as the author of a clever book for children.

Special Article

WATER SUPPLY AND PUBLIC HEALTH.

EDWIN O. JORDAN, PH.D.
Professor of Bacteriology, University of Chicago.
CHICAGO.

(*Continued from page 1759.*)

3. BACTERIAL EXAMINATION.

When sanitarians generally came to recognize that the constituents that impart a dangerous character to polluted water were living organisms belonging to the class of bacteria, it seemed to many a fair inference that by testing for the presence of these bacteria more accurate and direct information could be obtained as to the safety of a water than by testing for chemical substances which were not in themselves injurious. Projects for the bacterial examination of water were consequently entered on with much enthusiasm, but the original expectations excited by this mode of procedure have by no means been realized. It was soon found that the search for specific pathogenic bacteria in water was but rarely crowned with success, and that among the multitude of bacteria present in sewage and polluted water but few could be regarded as dangerous; it is now manifest that for the present the bacteriologist, like the chemist, must form his judgment as to the sanitary character of a water from indirect evidence and by inference, rather than from the positive demonstration of the presence of pathogenic microbes.

Quantitative Analysis.—First in order of development was the quantitative examination of water. In its simplest form this consisted in the enumeration of colonies of bacteria developing on plates of nutrient gelatin to which measured quantities of the water were added. Since its inception this method has undergone considerable modification and elaboration. It has been found, for example, that the changes that take place during transportation of a sample of water from the point of collection to a distant laboratory are often so great as to vitiate completely the results of the colony count. The change in the number of bacteria is usually in the direction of an increase. For the purpose of avoiding this source of error the packing of water samples in ice for shipment has been commonly resorted to in order to inhibit the multiplication of bacteria that takes place at ordinary temperatures. It has been shown more recently, however, that refrigeration may lead to a diminution of the original germ content and in this way alter the original number of bacteria wellnigh as seriously as transportation at ordinary temperatures. The best modern practice requires, therefore, that for the quantitative bacterial examination of water, the water under observation be mixed with nutrient gelatin and plated within one hour, or better, within one-half hour, after removal from its source. When circumstances are such as to necessitate transportation, control platings should be made at the point of collection as frequently as practicable.

Another direction in which elaboration of method has proceeded is in respect to the composition of the nutrient medium employed for the development of the colonies. Nutrient gelatin (10 per cent. gelatin, 1 per cent. Witte's peptone) is preferred by most workers in water bacteriology at the present time, although in some special investigations nutrient agar has been advantageously used. Media substituting for peptone albuminous substances such as the *Nährstoff Heyden* have been strongly recommended by some observers, but for various reasons have not come into general use.

Opinions have oscillated as to the degree of alkalinity of the culture medium most suitable for quantitive work. The practice once common in this country of using a medium reacting 1.5 acid to phenolphthalein has been gradually superseded by the use of a medium of somewhat greater alkalinity, namely: 1.0 acid to phenolphthalein. This reaction has been found by many observers to give the maximum colony count with the usual two day incubation period at 20° C. If the water is suspected of containing more than about 200 bacteria per c.c., it should be diluted with sterile water 1-10, 1-100, etc., since much more accurate counts can be obtained when the number of colonies on a plate range between 50 and 200 than when larger numbers are present.

As regards the interpretation to be placed on the results of quantitative bacterial analysis, the statements already made concerning the establishment of standards for chemical examination apply here with quite as much force. Taken by itself, the actual number of colonies per c. c. developing in a given sample of water has little if any sanitary significance. A pure spring water containing at the outset less than 100 bacteria per c.c. may, on standing in a clean glass flask at a fairly low temperature come to contain tens of thousands of bacteria per c.c. within from 24 to 48 hours. There is no reason for supposing that the wholesomeness of the water has been in any degree impaired by this multiplication of bacteria. The quantitative bacterial examination, like the chemical, has only an empirical value.

Experience, however, has shown that most natural waters known to be pure contain relatively few bacteria capable of developing by the usual methods, while sewage and sewage-polluted waters contain large numbers. Fresh sewage, for

example, usually contains from 1,000,000 to 3,000,000 bacteria per c.c., while ordinary waters rarely contain more than a few hundred. The actual number of bacteria in a water under natural conditions often possesses, therefore, considerable sanitary significance, although the attempts that have been made to apply arbitrary standards for the reasons cited have met with but little success. There is a tendency to hold that natural waters found by approved methods to contain more than 1000 bacteria per c.c. are to be regarded as distinctly suspicious. A turbid river water, however, may be relatively unpolluted and yet at times contain several thousand bacteria per cubic centimeter.

Kind of Micro-organisms.—More success has attended the attempt to connect the presence or relative abundance of certain specific micro-organisms with the quality of a water. It is considered practically established in sanitary water analysis that the kind of bacteria present is more significant than the number. The earlier attempts at differentiation did not prove especially illuminating. It was supposed, for example, that some light might be thrown on the character of a water by the abundance of colonies liquefying the nutrient gelatin, as distinguished from the non-liquefying varieties. Such a distinction has no sanitary value. Continued attempts to discover some specific bacteria characteristic of sewage and not found in pure natural waters have had a more satisfactory outcome. Examinations to determine the presence of certain kinds of bacteria are now commonly made by bacteriologists engaged in water analysis, and the relative abundance of these bacteria is of great importance in forming an opinion of a given water.

The most widely used, and by general consensus the most valuable of these tests for specific bacteria is the "colon test." *Bacillus coli communis* is a common inhabitant of the intestine of man and of many of the higher animals and is found in great abundance in sewage. Its close biologic resemblance to the typhoid bacillus and the fact that, like the latter organism, it finds its way into sewage from the discharges of the human body render its presence, especially when in large numbers, peculiarly suggestive.

The method of procedure ordinarily used in making the colon test consists in adding measured quantities of the water (5 c.c., 1 c.c. or fractional parts of 1 c.c.) to the ordinary glucose-peptone broth in fermentation tubes. The ability of the colon bacillus to ferment sugar with gas production causes gas formation in the closed arms of those fermentation tubes to which colon bacilli have been added. A more detailed examination is then made of the contents of those tubes showing gas production and the presence of the colon bacillus definitely ascertained by application of the necessary specific criteria. If ten tubes be thus inoculated, each with 0.1 c.c. of water, and the colon bacillus is found in seven of these, the inference is that there are seven colon bacilli per 1 c.c. of the water examined. If three tubes out of 10 inoculated with .01 c.c. yield positive results, then it follows that the number averages 30 per c.c. This method, which was devised in 1892 by Theobald Smith, has proved useful in the hands of many experimenters and is highly regarded as a delicate and satisfactory method of determining the degree of water pollution. It should be remembered that the relative abundance of colon bacilli rather than their presence is the essential feature of this test. The mere finding of one colon bacillus in 50 c.c. of water or even in occasional 5 c.c. samples affords no adequate ground for casting suspicion on the character of a water. On the other hand, those who have had most experience in the application and interpretation of this test are agreed that a water showing the presence of colon bacilli quite uniformly in a quantity of 1 c.c. is, to say the least, of extremely doubtful quality. *On the whole, if reliance must be placed on a single test of a water and the interpretation deduced therefrom, greater weight at the present time can be attached to the results of the colon test in the hands of an experienced observer than to any other isolated determination, bacterial or chemical.*

It has been proposed to use the presence of streptococci in water as an adjunct to or possible substitution for the colon test. Streptococci are often found in fresh sewage in large numbers, not infrequently in greater abundance than the colon bacillus. It is, however, believed by some to be a less hardy organism than the latter and to disappear more quickly from sewage and from polluted water. While there is reason to believe that the typhoid bacillus does not live in water as long as the colon bacillus, it is unquestionably wise to adopt a standard of too much rather than too little rigor. For this and for other reasons, the streptococcus test does not seem likely to supplant the colon test, although it may possibly sometimes supply valuable information concerning the existence of very recent and therefore highly dangerous pollution.

The presence of the spore-forming anaërobe, *B. welchii* (*B. aerogenes capsulatus, B. enteritidis* of Klein) has likewise been urged as a specific determination of possible value. Owing, however, to the tedious and difficult procedure necessary for complete identification of this organism, and also because of its probable persistence for long periods in the spore stage, the isolation of *B. welchii* in practical water examination has not come and does not seem likely to come into general use.

CHAPTER VI.

THE NATURAL PURIFICATION OF STREAMS.

It may be safely assumed that there are few natural waters on the surface of the earth that do not receive a perceptible amount of the sewage, drainage or waste resulting from human habitation. Entirely apart from any analytical data the experience of the human race has shown that many of these natural bodies of water are used as a source of water supply by considerable populations without any strikingly noticeable injurious effects. If all the dangerous elements or, to put it more specifically, all the pathogenic bacteria entering bodies of water remained there in their original number without change, it needs little imagination to picture the difficulties that would beset mankind in the matter of procuring a good water supply. It is apparent that in Nature some sort of change occurs which results in the destruction or disappearance of the offensive and disease-producing elements that are from time to time introduced into most bodies of water.

This belief in the natural purification of water has been maintained especially in respect to the water of flowing streams. Although there is no reason to suppose that motion aids in purification, the saying that running water purifies itself has been popularly accepted as almost axiomatic, and the theory of natural purification has received its chief support from what has been observed and has been supposed to occur in polluted rivers. It is not difficult to understand how such a belief arose. A casual observation of freshly polluted river water often suffices to reveal gross evidences of the pollution, but farther down stream these indications of contamination are less marked and finally they vanish altogether. From these naked-eye observations the inference has been hastily drawn that purification has occurred. Much misunderstanding and many mistaken notions have arisen in this way and it seems desirable to devote more space to the consideration of this doctrine than is perhaps warranted by its actual practical importance. It may be premised that in modern times and under the prevailing conditions of urban life the purification of water, whether by natural or artificial processes, is of no small importance. It has been wittily said that what is wanted in a drinking water is innocence rather than repentance, but it must be also remembered that very few large communities are in a position to obtain a virginally pure supply. In practically every civilized country, the rivers, large and small, receive the sewage or drainage of a more or less extensive population, and the same is true of the larger ponds or lakes. It has recently been estimated (Hazen) that the water supplied to approximately 52 per cent. of the urban population (in cities of over 25,000) of the United States is unsatisfactory. The large and increasing consumption of water by the inhabitants of modern cities and towns renders the obtaining of a sufficient quantity of uncontaminated water extremely difficult and in most cases impossible. For the majority of public water supplies recourse must be had to sources known to be more or less polluted at some stage in their history. The reckless practice of many cities in this matter shows that a considerable degree of natural purification must occur, otherwise the consequences of the prevailing neg-

lect of the most elementary precautions would be far worse than they are.

The extent and rapidity of this process of natural purification are questions, however, on which there has been much difference of opinion among sanitarians, and concerning which existing data are inadequate and in some cases apparently conflicting. The final settlement of the question hinges on many imperfectly understood and variable factors.

The problem is often presented in concrete form as follows: Suppose a city pours its sewage into a river, how far below the point at which the sewage is discharged is it permissible or desirable on sanitary grounds for another city to take its water supply from this stream? Or, in another relation, in the case of a city deriving its water supply from a river, how far above this point can another city be equitably and safely allowed to empty its sewage into the river? Under actual conditions, pollution and subsequent purification never present themselves in so simple a form. Between the point of great pollution and that of derivation of the water supply, other sources of contamination and infection always occur. The drainage from rural communities or from isolated farmhouses connected, it may be, with outhouses immediately overhanging the tributaries of the main stream, constitutes a perpetual menace to the purity of a river water, even when the possibility of pollution with urban sewage is removed. These often-overlooked sources of danger however, are frequently overshadowed by the grosser defilement to which a stream is subjected by the discharge of the sewage of a great city. It is the latter event that is commonly, although perhaps unwisely, considered as the main feature in the problem of the natural purification of streams.

Stripped of all technicalities the question at issue really is how far can typhoid bacilli travel in the water of a flowing stream and arrive at a water intake in such a condition as to constitute a menace and a danger to the inhabitants of a distant city or state. It is obvious that the problem is not one of space so much as of time, that it is not so much the distance over which a bacillus has to pass as it is the time consumed in traversing the stretch of river between the two points. The problem at bottom is essentially that the longevity of the typhoid bacillus in a given water, whether of a river or lake. As is well known, the conditions affecting this longevity are many and varied and the experimental evidence shows that the length of life of this micro-organism is greater in some waters than in others and is conditioned by a variety of concomitant influences. Practically, then, every inquiry into the alleged self-purification of streams must partake of the nature of an individual and separate investigation, and, for the present, must be carried on without too much reference to results obtained under other conditions. It has rarely been found possible to experiment directly with the typhoid bacillus under conditions identical with those obtaining in a given river. It is necessary, therefore, to rely provisionally on data of an indirect and inferential character, and it is these latter only that are ordinarily considered in a study of any particular case. The indirect evidence is of several kinds and of different degrees of value.

Very conclusive evidence cannot often be derived from epidemiologic data for the reason that between the point on a river at which sewage is poured in and that at which the water supply is taken out many houses and villages contribute pollution and infection. It is only occasionally that an excessive prevalence of typhoid fever in a city supplied with river water can be traced clearly and indisputably to infection by the sewage of some one city located on the stream. Where the cities concerned are not far apart, as in the case of Lowell and Lawrence, on the Merrimac river in Massachusetts, a connection between unusual typhoid fever in one place and unusual infection in the other seems to have been definitely made out. The sewage of the city of Lowell is emptied into the river only nine miles above the intake of the Lawrence water works and it has been shown that on several occasions a large amount of typhoid fever in the former city has been followed by an increase in the disease of Lawrence, the time correspondence being so close as to satisfy epidemiologic requirements. A few similar cases have been recorded. The circumstantial evidence brought to light by Sedgwick[19] in his study of an outbreak of typhoid fever at Newburyport, Mass., points to a similar relation between the breaking out of typhoid fever in that city and an unusual infection of the Merrimac by the sewage of Lowell and Lawrence, respectively, 17 and 26 miles above. River-borne epidemics of typhoid fever are rarely traceable, however, with such distinctness to urban pollution. The majority of the more carefully studied epidemics of typhoid fever due to river water have been attributed to infection of the stream or its tributaries a short distance above the sources of supply. The well-known Lowell epidemic of 1890-91, to continue reference to the same body of data, owed its origin not to the sewage of Concord, Manchester and Nashua, but to a specific infection of Stony Brook, a small feeder only 3 miles above the Lowell water intake.[20]

The attempt to associate the occurrence of typhoid fever in the city of St. Louis with the opening of the Chicago drainage canal did not find much support as might have been anticipated indeed from the general complexity of the situation. Even if it were assumed that all the typhoid fever in St. Louis was due to the water supply, it can be readily seen that it would not be a simple task to apportion equitably the responsibility for the infection of the Mississippi river water among the various urban and rural communities, near and remote, on the Mississippi, Illinois and Missouri watersheds or to assign to each its proper share of responsibility for such pathogenic bacteria as might be drawn out of the Mississippi at the St. Louis water works.

Since it is clear that the epidemiologic evidence, which in most cases of water-borne infection is of paramount importance, is often absent or ambiguous as regards the natural purification of streams, it becomes necessary to fall back on chemical and bacterial data.

The chemical changes that occur in a sewage polluted river water are of considerable interest and significance. Those streams that have been freshly contaminated with large quantities of sewage contain at the outset organic nitrogen and free ammonia in great abundance. Analyses made at various points along the river show that a marked diminution in the amount of these organic substances occurs during the passage of the water down stream. Hand in hand with the lessening of these substances there is noticed first an increase in nitrites and then in nitrates, until eventually a large part of the unstable organic nitrogen of the original sewage has become oxidized into the stable mineral condition of nitrate; the process of nitrification is complete. In other words, after a certain distance, or more properly, after a certain time, a once polluted river water reaches a state of relative organic stability. In this condition it may be said to be chemically purified, and, unless fresh organic matter is introduced or is formed by algal growth, it is no longer capable of giving rise to offensive decomposition products. The process of chemical purification of a river not only removes or alters the organic compounds originally present, but, owing to the time necessary for its accomplishment throws a strong side-light upon the sanitary problem. In a recently polluted water, both free ammonia and typhoid bacilli may be present, but on standing, the free ammonia is oxidized to nitrate and the typhoid bacilli tend to die out. The greater the lapse of time the more probable is the consummation of both processes. The fact that complete chemical purification has occurred naturally lessens the likelihood that typhoid bacilli have survived.

The bacterial evidence is of a similar, though possibly more direct nature. One branch of the evidence consists of observations regarding the disappearance of the sewage bacteria as shown by the ordinary colony count. In the elaborate studies made on the Illinois river in connection with the St. Louis-Chicago drainage canal suit, for example, it was shown that the large number of bacteria present in the drainage canal and upper stretches of the Illinois river were materially diminished in the course of from 40 to 50 miles flow (from 2 to 3 days) and were reduced to the normal for tributary streams of this region after a further period (from 5 to 6 days). It is hard

19. Twenty fourth Ann. Rep. State Board of Health, Mass., 1892, p. 701.
20. Sedgwick: Loc. cit., p. 667.

to believe that this enormous mortality among the sewage bacteria does not find a parallel in at least a similarly rapid dying out of typhoid bacilli.

The peculiar importance that has been shown to attach to the finding of the colon bacillus in bacterial water analysis has been utilized also in a study of the natural purification of streams. The evidence derived from a determination of the relative number of colon bacilli at different points along the course of a polluted river reinforces that obtained from chemical and quantitative bacterial examination. The colon bacilli which are present in large numbers in fresh sewage (70,000-100,000 per c.c.) disappear almost completely from the Illinois river in a flow of less than 150 miles.[21] If it is true, as it seems to be at present, that the fate of the colon bacillus in running water furnishes a satisfactory criterion of the continuance of vitality of the typhoid bacillus, there can be no doubt that a genuine self-purification of streams may and does occur. It must always remain true, however, that comprehensive generalizations are not possible. Each individual case involves a new and undetermined complex of factors. The rapidity and degree of self-purification in a given stream must be determined for itself and the conclusions reached in each case are not applicable to other rivers without renewed study and investigation.

The assertion is sometimes made that "water once polluted is unsafe for domestic use unless artificially purified." No such sweeping statement can be justified unless based on the belief of the practical immortality of disease germs once introduced into a water. On the other hand, implicit reliance on the natural purification of a river water is usually misplaced under actual conditions. A stream conceivably may rid itself of infection introduced at one point, but be so exposed to contamination at other points along its course as to be totally unfit as a source of public water supply. In general a stream large enough to afford a continuous supply drains an area so large that any effective control over the watershed is impracticable. These difficulties are often insurmountable. In Germany the use of unfiltered surface water for municipal supplies is entirely and righteously prohibited.

One established instance of the natural purification of a river, perhaps the most remarkable on record, may be cited here. The Mississippi river receives, as is well known, the drainage of a large part of the interior of the North American continent. On this stream or its tributaries are situated many large cities which continually discharge large quantities of crude sewage. In spite of this enormous pollution, the Mississippi river at New Orleans, from a sanitary standpoint, is unusually pure and wholesome. During the last few hundred miles of its flow it receives little additional contamination and, under these conditions, it frees itself, almost if not entirely, from the earlier contamination. The delicate test for the colon bacillus made on the Mississippi water at New Orleans failed to discover this organism even in quantities of water as large as 100-300 c.c.[22] There are probably few cases where the occurrence of natural purification is demonstrated so clearly.

(*To be Continued.*)

21. Jordan: The Self-Purification of Streams. The University of Chicago Decennial Publication, Chicago, 1903.

22. Report on Water Purification, etc., New Orleans, 1903, p. 47.

Protecting Netting for Beds of Delirious Patients and Children.—The *Med. Klinik* for April 28 brings an illustrated description of a device to prevent injury from falling out of bed or the escape of delirious patients. A frame of gas piping fits over the bed and fastens below the mattress. At the foot and head the piping forms an arch—otherwise the frame does not show. A number of rings slide loosely on the two arches, and to these rings is attached a strong netting with very large meshes. When not in use, the netting and rings lie at the back of the bed, almost entirely out of sight. At night the netting is drawn up over the arches and fastened down on the opposite side of the bed, thus forming a tent of netting over the bed. The device has been in use for some time in the Budapest hospital, and Tornai, who writes the article, commends it in high terms, especially for children, as much safer than the ordinary child's bed.

Clinical Notes

CLINICAL NOTES ON SYPHILIS.

LABIAL CHANCRES.

JEROME KINGSBURY, M.D.
NEW YORK.

The literature on the subject of extragenital chancres is so extensive that one naturally hesitates before adding to the enormous number of cases already recorded. The fact that the profession at large does not, as yet, seem to appreciate the frequency of this clinical occurrence I believe to be sufficient reason to warrant a brief report of six cases of primary syphilitic lesion of the lip.

All the patients are women. The first three were seen in private practice during the past year and a half, and the other three at the Presbyterian Hospital Dispensary within the past five months. Cases 3, 4 and 5 were presented at recent meetings of the Society of Dermatology and Genito-Urinary Surgery.

CASE 1.—A widow, aged 44.

Examination.—When first seen at her residence, she was suffering from severe frontal headaches, and complained of the annoyance and disfigurement caused by an obstinate sore in the center of the upper lip. This sore, she stated, had been present about seven weeks. It began as a hard pimple and gradually increased in size until it measured about three-quarters of an inch in diameter. The lesion showed some induration and there was considerable protrusion of the lip. The only glands palpable were the postcervical. Her throat was hyperemic, but no patches could be detected.

Course of Disease.—In about two weeks a well-marked macular eruption appeared and later there was moderate alopecia. All the objective symptoms of syphilis soon disappeared, but the patient suffered for a time from persistent occipital headaches and also from severe rheumatoid pains in her hands and feet. An acute iritis that developed later was thought by a consultant oculist to be of rheumatic origin, notwithstanding the history of recent syphilis.

Mode of Infection.—As in the majority of similar cases, this is of course purely conjectural. The patient remembered that one of her young women boarders had sores in her mouth and thought that when both were attending a certain dinner party they might have drunk wine from the same glass. This particular incident occurred, however, nearly two months before the sore was noticed. It is more likely that the woman was infected in a more direct manner.

CASE 2.—A young woman, aged 25.

Examination.—When first seen she had an extensive, large, papular syphilide. There was a generalized hyperplasia of the superficial lymphatics, although the left submaxillary and sternomastoid were the glands particularly affected. The throat was congested and the tonsils enlarged. There were no lesions around the genitals. On the left side of the lower lip there was an indurated area and the patient stated that at this site there had been a hard sore about the size of a hazel nut that had been present for nearly eight weeks. She had previously consulted several physicians regarding this lesion, but apparently none of them had recognized its true character.

Mode of Infection.—This was not definitely determined, although the patient very frankly supplied pertinent information. It appeared that a young man with whom she had had frequent sexual intercourse and whom, by the way, she subsequently married, was then at Hot Springs being treated for syphilis. There was, however, another admirer whom she had often kissed. He was a youth of loose habits, and at the time suffered from sores on his lips and tongue.

CASE 3.—A dressmaker, single, aged 30. She was born in England, but has lived in this country since early childhood.

Examination.—When she first consulted me there was presented for inspection an irregular granulating lesion occupying nearly the entire left side of the upper lip. There was very little induration, although the mass was firm to the feel.

It had existed for nearly two months and had been large since the first week. No possible source of infection could be traced.

Course of the Disease.—Shortly after coming under observation a small papular eruption appeared, accompanied by general adenopathy and mucous patches in the throat. Later there was considerable alopecia and examination of hair revealed a rather well-marked case of trichorrhexis nodosa. The hair was dry, fine and lusterless, and a majority of the hairs showed the characteristic nodes distributed at intervals varying from one-half to two inches. About three months after the appearance of the secondaries certain pigmentary changes were noticed on the neck and soon a typical so-called syphilitic leucoderma developed.

CASE 4.—A young woman, aged 21. Employed as a waitress in a private family.

Examination.—When she first applied for treatment at the dispensary she had an erosion nearly an inch in diameter on the right side of the upper lip about one inch from the center. The lesion was sharply defined and was decidedly hard to the touch. It had a smooth moderately raised surface of a vivid red color. The girl said that the sore began as a small blister three weeks before and had rapidly increased in size. No satisfactory history relating to possible method of infection could be obtained.

Course of Disease.—In about a month the patient developed a macular eruption and general adenopathy. The submaxillary glands, however, as is not uncommon in cases of chancre of the upper lip, were but very slightly enlarged. There was but slight alopecia in this case, although there was a pityriasic condition of the scalp and the hair was dry, short and thin.

CASE 5.—A German woman, aged 24 years, employed as chambermaid in a large household.

Examination.—When the patient first visited the dispensary she had a slightly indurated lesion in the center of the upper lip. It was nearly round, about half an inch in diameter, and covered with an adhesive brownish crust. She stated that her lips had been rough and cracked for the past six weeks, and that the sore was present for nearly the same length of time. The submaxillary, postcervical and epitrochlear glands were all palpable. The throat was hyperemic and a small superficial patch was noticed on the right side of the soft palate. A great maculo-papular eruption soon developed, and later the patient suffered considerably from extensive mucous patches in the throat.

Mode of Infection.—When the patient was first seen nothing could be learned as to the possible mode of infection. Recently, however, one of her female friends who consulted me for falling hair was found to have a marked and unmistakable syphilitic alopecia. History of a genital lesion was readily obtained, but a negative one as to secondaries. Chronologically, though in a rough way, it could be assumed that she had some patches in her mouth at the time when her friend must have acquired the labial chancre. As the girls had frequently kissed one another, it is not unreasonable to suppose that the disease was transmitted in this manner.

CASE 6.—A strong, well-preserved German woman, aged 38, the mother of six children. On last New Year's Day she terminated a short widowhood by marrying a man eleven years her junior. The marriage was decided on at a time when they were celebrating the holiday with mutual friends. There had been no previous courtship and no caresses were exchanged until the wedding night. About five weeks later the bride began to have chills and fever, and at the same time noticed a small sore on her lip. Her chills and fever continued and the sore gradually increased in size. Two weeks later another sore appeared on the upper lip. This was possibly an autoinfection.

Examination.—The woman was first seen in one of the medical rooms at the dispensary through the courtesy of Dr. Seward Erdman. There was an ulcerated lesion about half an inch in diameter, on the left side of the upper lip, nearly an inch from the median line. A similar lesion about one-third the size was on the upper lip just to the right of the center. Both showed marked induration. The submaxillary glands on the right side had been excised when the patient was a young girl, but those on the left were slightly enlarged and the epitrochlear glands were palpable. There had been no previous symptoms of malaria, but on examination the spleen was found to be large and there was a temperature of 101 F. A macular eruption developed later, and the patient suffered considerably from severe headaches.

Source of Infection.—It was ascertained that the husband had contracted syphilis from a prostitute several months before his marriage. The chancre had entirely disappeared, as well as the eruption, and he did not imagine that the few sores in his mouth could possibly communicate his disease to another.

The conclusions to be drawn from a report of the above cases are so apparent that any personal observations regarding them would be superfluous.

VERONAL DERMATITIS,

AND THE NEGLECT OF THE ANAMNESIS.

L. DUNCAN BULKLEY, A.M., M.D.
NEW YORK CITY.

In THE JOURNAL, April 20, is an account of an eruption caused by veronal which so exactly corresponds with that which I have recently observed that it seems well to corroborate the description, as drug eruptions are often the cause of much confusion in practice; and as far as I know this particular one has not been previously recorded.

History.—Mr. H., aged 67, had been under my care off and on for over ten years, with occasional attacks of eczema, principally about the face and arms. He is a wiry, fairly preserved man, though nervous, and having large business interests. I had not seen him for nine months; he had spent the summer in Europe, returning in September, and had been in good health all winter, excepting occasional indigestion. February 17 I was sent for to see him at his country home because of a sudden and very general eruption which had appeared, which caused much mental distress, together with considerable burning and itching. I learned then that he had been having some general itching of the wrists and legs, and being unable to sleep one night, he had on the next night, the 14th, taken 7½ grains of veronal at 10:30 p. m., and had repeated the dose at 1 a. m. and again toward morning. (I had never ordered the drug for him.) At about 6 o'clock he rang his bell and was found almost unconscious and cold; he may have had a rise of temperature later, but I did not learn of it; the eruption burst out quickly that day, February 15, and reached its height the next day.

Examination.—When I saw him, February 17, the eruption was still general, though most marked on the lower extremities, and answered very completely to the description given by Dr. House. In some places, especially on the body, it was an erythematous rash, somewhat resembling scarlatina, but on the limbs it was largely in separate flat maculo-papules, some of them nearly an inch in diameter, but most of them less than half an inch, slightly raised above the skin, like a papular erythema. The center of most of the lesions was darker red, and some appeared almost hemorrhagic; the eruption was fading somewhat by the time I saw it. The urine had been dark and scanty; the temperature then was 98 F., pulse 60. The eruption was recognized as being due to the drug, and under mild eliminative treatment it had about disappeared in four days, though there were still brownish stains in many places. The day after taking the veronal he was drowsy, and later he stated repeatedly that that day was a blank to him, and he has no memory whatever of what transpired, though the family were very anxious about him.

In the same issue of THE JOURNAL there is a communication from Dr. Bayard Holmes on "The Neglect of the Anamnesis," which has a certain bearing on the matter in hand, and which I would like to endorse most

heartily. Dr. House does not give the antecedent history of his case, though he may have taken it very carefully. He states, however, that he learned later that the patient had twice before had a similar eruption from veronal, once from a 5-grain dose, repeated in three hours. In a case like this one, in which the patient has "been taking for months all kinds of nerve sedatives" it is often well to inquire if the patient has any peculiarities or susceptibilities in regard to any particular drug favorable or otherwise. Not infrequently this is found to be the case, and the information may be of much service.

Dr. Holmes does well to call the serious attention of the profession to the modern error of excessive laboratory and experimental work, especially in the colleges, to too much neglect of careful and minute clinical observation, study and record. While with him I would by no means underestimate the importance and the necessity of an accurate diagnosis, often obtained by instruments of precision, I would exalt, more highly than is often done, the very great value of a painstaking study of the patient in all particulars, however small. Only by fully and properly understanding the individual affected can we, in the best manner, cope with the derangements of function or tissue to which we give the name of different diseases.

531 Madison Avenue.

TECHNIC OF STUMP INVERSION IN APPENDECTOMY.

JOHN EGERTON CANNADAY, M.D.
Surgeon-in-Chief, Sheltering Arms Hospital.
HANSFORD, W. VA.

After the completion of the incision one or two fingers are inserted and the appendix, with the cecum, is drawn out. The cecum is held by the assistant, the appendix is clamped in the jaws of a pair of hemostatic forceps applied just above the line of junction with the cecum. A second pair of forceps is applied just above the first and gradually worked upward, forcing all contents before it until it is about one-quarter of an inch above the first (Fig. 1). The blood vessels of the meso-appendix are tied off with catgut and the appendix severed as near to the edge of the first forceps as possible (Fig. 2), and the scissors, second pair of forceps and appendix are laid on a specimen tray. The stump of the appendix is lightly touched with a weak solution of iodin on a cotton-tipped applicator or a thermo-cautery is used for the same purpose, that of rendering the stump germ free. A purse string suture of ten-day catgut threaded in a round needle is placed about the base of the appendix. This suture is carried over and not under the handle of the forceps to facilitate inversion. The needle is carried deep enough to include all the coats of the bowel. At the base of the side of the meso-appendix there is sometimes an artery which might bleed after inversion; this is secured by passing the purse string suture under it. The operator loosens the hold of the forceps on the appendicular stump and reapplies them so that about one-eighth inch of the stump distal to the handle is left free (Fig. 3). The assistant elevates the handle of the forceps and depresses the point so that the stump is inverted into the lumen of the bowel while at the same time the operator makes traction on the two ends of the purse string, seesawing them slightly if necessary (Fig. 4); the sharp-pointed forceps are gently and slowly removed and the inversion is complete. The puckered line of removal is now buried by a superficial continuous suture of fine catgut, which is then continued so as to bury the remains of the meso-appendix. This particular method of invaginating the appendix precludes all possibility of escape of feces during the operation and is simple. I have tried the various appendix tuckers, but the forceps method works better.

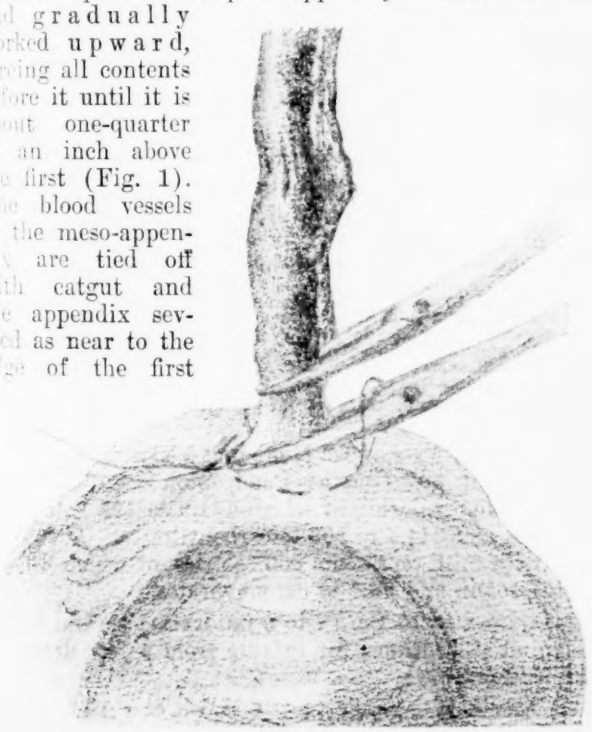

Figure 1.

Figure 2.

Figure 3.

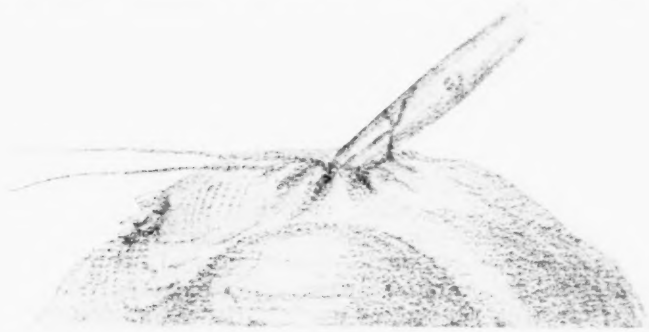

Figure 4.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.)

(Continued from page 1351.)

MEDICINAL FOODS.

The so-called "Liquid Foods," "Medicinal Foods" or "Predigested Foods," as found on the market, are solutions containing as the essential constituents small amounts of protein substances and carbohydrates, preserved by alcohol.

The protein substances should be rendered soluble, i. e., converted to peptones and proteoses, by means of enzymes. While the hydrolysis of proteids to soluble proteoses may also be effected by means of acids or superheated steam, these products should be excluded from medicinal foods because of the uncertainty as to their composition and behavior—being held toxic and dangerous by some. The protein content of these liquid medicinal foods (obtained by multiplying the total nitrogen content by 6.25) ranges from 0.5 to more than 6 per cent. The carbohydrates present in these foods are sucrose (cane sugar), maltose, glucose, invert sugar, dextrin and possibly also lactose (milk sugar). In these foods, as found on the market, the quantity of carbohydrates ranges from 0.55 to more than 15 per cent. The alcohol content varies from 12.0 to 19 per cent. of absolute alcohol by weight. Some contain large amounts of glycerin.

Actions and Uses.—The value of medicinal foods depends on the proteins and carbohydrates contained therein. Glycerin does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism. While the value of alcohol in the treatment of disease is fully appreciated, its value as a food product, pure and simple, in disease is, however, an open question. It probably acts as a saver of fat and carbohydrate, but not as a tissue builder. The nutritive value of these medicinal foods, therefore, should be considered as based on their carbohydrate and protein content, exclusive of alcohol or glycerin. The calculated food value of a considerable number of medicinal foods, on the basis of the potential energy (calorific value) due to proteins and carbohydrates shows that some possess but one-third the value of milk, while the best have a trifle more than twice the calorific value. The Council has decided that no liquid medicinal or predigested food be given consideration which contains less nutritive value, exclusive of alcohol and glycerin, than milk; and at least one-fourth of this should reside in nitrogenous constituents.

Dosage.—None of the commercial liquid medicinal or predigested foods contain sufficient food material to maintain normal nutrition. A man doing moderate work requires an amount of food which furnishes energy equal to 3,000 calories per day, while, in sickness, this amount is not required it should not fall much below 1,500 calories per 24 hours. The examination of commercial liquid food shows that the average daily dose recommended supplies from 10 to 111 calories based on protein and carbohydrate. To sustain the vitality of a patient during a serious illness, 2,000 Cc. of milk, giving about 1,430 calories, are required; to supply the same number of calories, even if the alcohol is considered to have direct food value, from 700 to 1,500 Cc. of the medicinal foods will be required. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. It should, therefore, be remembered that the patient is receiving a starvation diet when these preparations are given in ordinary doses. Unless the daily dose advised contains at least 100 calories, exclusive of alcohol and glycerol, it should not be depended on to sustain life even for a limited period.

LIQUID PEPTONOIDS.

Liquid Peptonoids contain 4.5 to 5 per cent. nitrogenous matter (nitrogen x 6.25), 10.6 to 11.5 per cent. carbohydrates (glucose, lactose and sucrose) and 17.5 to 17.8 per cent. alcohol by volume (14 to 14.1 by weight).

It is said to be made from beef, milk and wheat by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase.

It is a light brown fluid of aromatic taste and odor and acid in reaction. Its specific gravity is 1.047 to 1.049.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Liquid Peptonoids corresponds to 335 to 345.1 calories, of which 118.3 to 108.7 are due to protein and 216.7 to 236.4 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—15 to 30 Cc. (4 to 8 fluidrams) from 3 to 6 times a day. Children in proportion.

Manufactured by The Arlington Chemical Co., Yonkers, N. Y. U. S. trademark.

PANOPEPTON.

Panopepton contains 6.33 to 6.38 per cent. of nitrogenous matter (nitrogen x 6.25), 10.05 to 11.92 per cent. of carbohydrates and 17 to 20.9 per cent. alcohol by volume (15 to 18.5 per cent. by weight).

It is said to be prepared from beef and wheat by digestion with gastric and pancreatic juices. The substance obtained by the digestion is mixed in fixed proportion of protein and carbohydrate, sterilized, concentrated in vacuo and dissolved in fortified Spanish sherry wine.

It is a light brown fluid, acid in reaction and possessing largely the odor and taste of sherry wine. Its specific gravity is 1.063 to 1.023.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Panopepton corresponds to 359.1 to 396.3 calories, of which 151.9 to 153.1 are due to protein and 244.4 to 206 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—8 to 16 Cc. (2 to 4 fluidrams) several times a day and at bedtime; for infants from a few drops to 2 Cc. (30 minims).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark.

(To be continued.)

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SATURDAY, JUNE 1, 1907.

"VITAL ACTION" OF CELLS IN THE LIGHT OF MODERN RESEARCHES.

As we secure more insight into the exact nature of the processes by which living cells carry on their functions, we find that the phenomena ascribed to "vital action" become fewer and fewer, for this phrase is, in the last analysis, simply the lumber room into which we would throw all the manifestations of life which we are not yet able to explain. There seems, indeed, to be little ground left for opposing the dictum that all the so-called vital activities of cells are merely the result of natural and well-known forces acting according to commonly observed and easily understood laws, but which seem to us to be something mysterious and incomprehensible simply because the processes occur under extremely complex conditions. There will long be many who will hold in reserve certain fields in which, according to their belief, simple physical explanations will not be found adequate; but even they must admit that the phenomena ascribable to vital action are being steadily decreased in number.

One of the strongholds of the "vitalists" staggered when it was shown that many of the activities of living cells are due to intracellular enzymes, and fell when it was demonstrated that all enzymes act according to simple laws of physical chemistry and are quite the same in principle as the strictly inorganic catalyzers, such as platinum black. Still, the power of enzymes to disintegrate complex substances was not strikingly vital when compared with the power possessed by living cells, and apparently possessed by them alone, to build up these same complex substances from simpler ones—and so the gap between cell life and the action of intracellular enzymes seemed to be a wide one. But it soon developed that this gap was more apparent than real, for, as van t'Hoff had predicted, the action of animal enzymes was found to be the same as that of inorganic catalyzers—namely, their action consists merely in hastening chemical processes toward an equilibrium, no matter whether that equilibrium demands a breaking down or a building up of molecular compounds.

At first we knew of enzyme actions only as destructive processes, resulting in the disintegration of large molecules into smaller ones, and it was not until 1899, when Croft Hill demonstrated that the enzyme maltase not only splits maltose into glucose, but conversely will combine glucose molecules to form maltose, that we became assured that van t'Hoff's interpretation of enzyme action was correct. Soon after (1901) Kastle and Loevenhart of Kentucky showed that the lipase of animal tissues will not only cause esters, such as ethyl butyrate, to separate into their component alcohol and acid, but when acting on the free alcohol and acid themselves will cause them to unite and form the esters. Neilson soon found that inorganic catalyzers, such as platinum black, could accomplish the same synthesis. At first the attempts to synthesize by enzyme action such fats as occur in the animal body were unsuccessful, but in 1904 Taylor of California reported that by the action of lipase from the castor bean on oleic acid and glycerin he had obtained the formation of triolein, which is the most abundant of the human body fats. Here, at last, was a demonstration that a complex constituent of the animal body can be synthesized outside the body by the action of enzymes, conclusively proving that no vital action of cells is essential for the formation of fats; for this synthesis may be performed by enzymes which can be demonstrated to follow simple laws of physical chemistry, independent of any mysterious element.

The corresponding synthesis of a protein by means of the action of enzymes on its components might seem to be a hopeless task, were it not that we have always before us the evidence that such a synthesis is continually going on in the animal body. According to all the evidence obtainable, the proteins of the food are decomposed into their constituent amino-acids before passing through the wall of the intestine, and as they do not seem to be present in any considerable amount in the blood coming from the intestine it is considered probable that they are resynthesized into proteins in their passage through the intestinal wall. As proteins are known to be disintegrated into amino-acids in the wall of the intestine by the enzyme erepsin, it is possible that the synthesis represents merely a reversible process on the part of the proteolytic enzyme, just as fats are split and recombined in the wall of the intestine by the lipase of the mucosa. Nevertheless, many attempts to synthesize proteins in the laboratory by permitting proteolytic enzymes to act on the products of protein digestion failed; even the simple peptids of Fischer could not be obtained in this way. At a recent meeting of the Society for Experimental Medicine and Biology in New York, however, a successful synthesis of protein by this means was reported by A. E. Taylor of the University of California.[1] The protein formed was one of the "simplest proteins" of Kossel, or protamins, which are characterized by the relatively small number of different amino-acids contained in their molecule. Such a protamin was digested with trypsin, and the products of digestion, free from all protamin, were acted on for five months by a trypsin obtained from a marine mollusc, which is much more resistant to self-digestion than

1. Journal of Biological Chemistry, May, 1907.

mammalian trypsin. At the end of this time enough protamin had been formed to identify as the same as the material originally used. This experiment, therefore, seems to fulfill the prediction that even the formation of proteins can be accomplished by the same enzymes which ordinarily disintegrate them, according to the general laws of the action of catalyzers. The assumption that similar syntheses occur in the living body is now certainly warranted, and we move a long step forward toward demonstrating that even so typically vital a process as the formation of cell proteins differs not at all in principle from the most simple synthetic processes of the chemical laboratory.

THE SHIP SURGEON.

Many internes have now completed their hospital services and are seeking a vacation before entering on active practice, and a much greater number of students will presently take their degrees after several laborious years. As only a small proportion of the latter can secure hospital appointments some way by which the others can combine remunerative work with wholesome recreation is desirable.

For such men positions as ship surgeons are ideal; these positions may be held for a few months. English graduates gladly take them. Students are often worn out by their long terms of mental and physical work, and a few trips across the Atlantic or to Indian and Chinese ports are of great benefit. As arrangements for this work are made in the home offices of the companies, British physicians have the advantage of us, for their merchant marine commands a far greater number of ships, which visit nearly every mundane port, and their ships, even those which come to our coast cities, naturally have English physicians. The ships owned by American companies have as naturally American physicians engaged.

The ship surgeon must be exceedingly well-equipped. He may be the only physician on board, and, of course, he is the only one in authority, having all the responsibilities which go with authority. He must be a competent surgeon, though he may not once in several voyages be called on for major work; nevertheless, at any hour a life may have to be saved entirely by his ability to remove an appendix or a dural blood clot. Among the crew fractures and dislocations may occur at any moment. His ideas concerning all the infections must be very precise; and he must have altogether adequate knowledge concerning sanitation and the principles of quarantine; else the blame for preventable deaths, not to speak of serious economic losses to his employers, would be laid on his shoulders. If there is a large steerage his obstetric abilities may be taxed, and he may devoutly hope that on such occasions there will not be a heavy sea. His skill in psychotherapeutics will be called into play in seasickness; probably no other means has ever proved really effective.

But apart from professional matters, an experience as ship surgeon should be very beneficial. The young physician has his views of life wonderfully expanded. His time for recreation is ample. During every trip he will meet most engaging people, cultivated men and women (many of them teachers) on their vacations, with whom conversation will be a continual delight; and citizens of European countries whose opinions will certainly have a liberalizing effect on his not yet matured mind. Between voyages he may make brief visits to great cities, which contain so much that is essential to a liberal education.

As we have intimated, however, we would not suggest such a position as a life career; the income can never be large and, taking it month in and month out, there is not enough professional work to fill in a live man's time.

PROTECTING THE FOOL FROM HIS FOLLY.

The believers in the *laissez-faire* principle in economics hold that the government exceeds its rightful functions when it makes laws for the protection of the individual against himself. The modern tendencies in some quarters toward paternalism in government have caused a reaction which expresses itself in the "let alone" principle of the French physiocrats. Abuses should be remedied, such economists hold, by a campaign of education through which the wrong will automatically right itself.

A correspondent recently raised the question[1] whether the campaign against the nostrum evil had not, from an educative standpoint, reached its limits. We are optimistic enough to believe that it has only just begun. But possibly, as our correspondent says, the time has arrived when the fool must be saved from his folly by laws conservatively made and stringently enforced. Such laws, however, must have their origin in the work of an enlightened public opinion such as can only be had as the result of a campaign of education. Laws are a success or a failure in direct ratio to the extent they are backed by public sentiment. It is the duty of the physician, with his peculiarly intimate knowledge of the wrong wrought by these medical frauds, to take the initiative in instructing the public. The use of that great educator, the daily press, is not available at present—for reasons sufficiently evident—or such laws would have been on the statute books long ago. In fact, to such an extent have the newspapers lost their sense of moral perspective in the acceptance of advertisements that, as was recently noted,[2] it became necessary for the United States Postoffice Department to interfere. It seems that permission to use the daily press for fraudulent and criminally indecent purposes was restricted only by the ability to pay advertising rates.

But there are signs of an awakening in this regard

1. Fridenberg (P.): The Great American Fraud, THE JOURNAL A. M. A., May 25, 1907, 1794.
2. THE JOURNAL, May 25, 1907, 1780.

among the better class of newspapers, and the time is not far distant when they may be counted on to throw their great influence on the right side. With the public in its present temper on the question of medical fakes and fakirs the psychologic moment seems to have arrived for the medical profession to take a hand in the campaign against the nostrum evil and quackery. It is worthy of remark in this connection that a consistent cleansing of the Augean stables of self-doping on the part of the public will call also for a degree of house-cleaning in the ranks of the medical profession. The intelligent layman who looks into the subject will begin to ask awkward questions. He will ask what is the difference between the woman who self-prescribes, let us say, Wine of Cardui on the strength of extravagant advertisements in the daily press and the physician who prescribes for the same woman Vin Mariani solely on the therapeutic claims made by its manufacturers in medical publications? He will wonder wherein lies the difference between Orangeine, with an acetanilid content frankly acknowledged, and the "ethical" (?) physician-prescribed proprietaries Labordine, Phenalgin, etc., which, while warning against the dangers of prescribing acetanilid, depend for their therapeutic effect on that drug? He will ask, in other words, why is not sauce for the lay goose condiment for the professional gander? And such questions are in themselves an answer to our correspondent's query as to whether educative methods have reached the limits of their usefulness.

SEWAGE AIR INFECTION.

Some years ago sewer gas was a popular bugaboo and was credited with the origination of many ailments that we now know to be caused by germs, the conveyance of which can usually be more easily explained than by way of sewer emanation. It is admitted, of course, that noxious gases from putrefying sewage may have evil effects on health, and it is possible also that bacteria liberated through the bubbles from such escaping gas may be carried into human dwellings or separated from dried sewage in the pipes and also thus conveyed. The main factors, however, are now looked for elsewhere, at least to a greater extent than was formerly the case, and it is not usually believed that bacteria are liable to escape and be carried through the house pipes from a well-arranged sewerage system. Some recent experiments, however, by W. H. Horrocks[1] seem to show that even fresh sewage may still be dangerous under certain conditions. He found that the bursting of bubbles could liberate bacteria, and that these could be carried considerable distances by any air currents that were present. He also found that the same currents could also liberate and convey germs that had dried on the surface of the pipes. This was naturally expected, but he found, too, that typhoid bacilli could be given out by fresh sewage flowing through a well-drained sewer under natural conditions, independently of bubbles and the separation of dried particles from the walls. The sewer peril, therefore, still exists and disconnecting traps are sanitary necessities. It is possible that we may still have to look to sewer emanations as the occasional cause of mysterious outbreaks of disease. Air-borne typhoid is a reality under other conditions, and apparently we shall have to recognize a possibility, though perhaps a remote one, of its conveyance by the old-fashioned sewer gas.

1. Proc. Roy. Soc., Dec. 6, 1906, Nature, April 18, 1907.

A LEGAL OPINION OF THE MEDICAL PROFESSION.

The successful physician seems to be looked on as the legitimate prey of those blackmailers whose extortion takes the form of malpractice and damage suits. Too often the court seems disposed to place the burden of proof on the physician, requiring him, the defendant, to prove his innocence rather than have the plaintiff prove the physician's guilt. It is a matter for satisfaction, therefore, to find a jurist who gives the medical profession its rightful due. In the case of a malpractice suit reported[1] from Ohio, Judge Blair, after listening to the evidence of several local physicians, took the case from the jury and instructed a verdict for the defendant. The attorney for the plaintiff, in protesting against this action, said that it is impossible to make a case against a physician because the members of the medical profession are under obligations to endorse each other's statements. He intimated that medical men when testifying in damage suits presented an unequivocal denial of malpractice, regardless of the facts in the case. In his ruling Judge Blair stated that for years he had been a close observer of the members of the medical profession and as a class he had found them "possessed of every element of honor." In commenting on the fact that some of the best young men from his county had taken up medicine as a profession, he said that he believes they had not "lost any of their manhood or moral make-up" in so doing. Neither did he think for moment that "any physician would perjure himself on the witness stand to shield another." It is but fair to say that the over-zealous attorney whose remarks called forth this caustic but appropriate comment disclaimed any intention of intimating that physicians would swear falsely.

1. Portsmouth (Ohio) Daily Blade, May 11, 1907.

ACUTE PANCREATITIS.

It can not be said that a final decision has been reached with respect to the etiology of acute pancreatitis. Many causes have been assigned for this disorder, but there has been so little constancy in the activity of any of the factors held responsible that for the present it must be concluded that a considerable number of these are operative under different conditions. These causative factors may be divided into three groups, comprising: (1) Obstruction of the biliary or pancreatic ducts, with retrojection of secretion; (2) infection from the gastrointestinal tract or contiguous disease or through the general system; (3) traumatism. Fat necrosis and glycosuria are not uncommon complications. As the result of an analysis of 105 cases of acute pancreatitis recorded in the literature,

Dr. Anfin Egdahl,[1] who reports two additional cases, reaches the conclusion that gallstones are probably the most common single cause of acute pancreatitis—these two conditions having been associated in 42 per cent. of the cases. Gastrointestinal disorders were found to be the next most common cause—namely, in 30 per cent. Among other causative factors were typhoid fever, pulmonary tuberculosis, mumps, traumatism, syphilis, embolism, appendicitis, malaria and gastric ulcer. The organism most commonly present in the inflamed tissues was the *Bacillus coli communis*, streptococci and staphylococci occurring next in frequency. Of the acute febrile diseases typhoid was the most common antecedent, but in this connection some allowance must be made for the general frequency of that disease.

THE BLOOD PRESSURE IN RENAL TUBERCULOSIS.

The fact that in most forms of nephritis, in practically all chronic forms especially, the blood pressure is increased, is one which has been taken advantage of in diagnosis. That certain diseases of the kidney which may be confounded with nephritis are not associated with a rise in blood pressure is an observation not yet widely realized. Reitter[2] has recently studied a series of cases of renal tuberculosis, comparing them especially with the infectious types of nephritis with which they are most likely to be confounded, and finds that in the individuals with tuberculosis there is, practically without exception, a hypotonia. A rise of blood pressure was not present in all cases of pyelitis and pyelonephritis, but in none of these cases was there an absolute hypotonia. Observations of this kind indicate the value of exact measurement of the blood pressure in diagnosis, especially in the diagnosis of kidney lesions. Such estimations must, of course, be made by means of a sphygmomanometer, the inaccuracy attending digital estimation having been frequently demonstrated.

GONORRHEA AND VERTEBRAL RHEUMATISM.

The etiology of rheumatism is still in a rather hazy condition, though much has been done in recent years to dispel the mist. No one doubts, however, that there are still grouped under the generic term rheumatism a variety of joint lesions of unlike etiology. The spinal form of arthritis deformans is now well known in its severer forms, but the milder varieties of vertebral joint inflammation are often ascribed to rheumatism, or classed as lumbago or torticollis. Bouchard[2] has recently described a form of spinal arthropathy of a chronic nature which is usually mild in its manifestations, but may be severe, and then constitutes, he thinks, the so-called "*Spondylose rhizomélique*" of Marie. In its usual form the condition attacks one segment of the spinal column, the lumbar, the dorsal, or the cervical. The symptoms are limitation of movement, at times going on to ankylosis, deformity of the spine, and sometimes the formation of osteophytes. The picture described is familiar to clinicians in this country, and would doubtless be classified by most of them as arthritis deformans. Bouchard claims that such cases are gonorrheal in origin, and that they may develop years after an acute attack when there is no evidence of the disease, but some old focus of chronic inflammation in the prostate or vesiculæ seminales.

1. Bull. Johns Hopkins Hosp., April, 1907, p. 130.
2. Ztschr. für klin. Med., lxii, 1907.

Medical News

ARKANSAS.

Personal.—Dr. Orange K. Judd has been elected city physician of Little Rock.——Dr. A. E. Tatum has been selected as president; Dr. J. Fred Bolton, secretary, and Henry Pace as a member of the board of health of Eureka Springs.

Commencements.—The twenty-eighth annual commencement exercises of the University of Arkansas, Medical Department, Little Rock, were held May 1, when a class of 26 was graduated. The annual address was delivered by Prof. J. H. Reynolds of the University of Arkansas, and the degrees were conferred by acting governor Hon. John I. Moore.——The first commencement of the College of Physicians and Surgeons, Little Rock, was held April 30, when a class of eleven received diplomas. The address was delivered by Hon. C. T. Coffman; the faculty valedictory was delivered by Dr. Stradder U. King, and the degrees were conferred by the dean, Dr. Joseph P. Runyan. At the annual banquet Dr. C. R. Shinault was toastmaster.

Society Meetings.—The Independence County Medical Society, at its annual meeting in Batesville, April 15, elected Dr. William D. Hankius, Salado, president; Dr. William B. Lawrence, Batesville, secretary, and Dr. R. H. Hodges, Newark, treasurer.——At the recent meeting of the Washington County Medical Society, held at Fayetteville, Dr. Dodson Christman, Springdale, was elected president; Dr. James Pittman, Prairie Grove, vice-president; Dr. J. R. Southworth, Fayetteville, secretary; Dr. Albert L. Moore, Fayetteville, treasurer, and Dr. Harvey D. Wood, Fayetteville, librarian.——At the recent meeting of the Jackson County Medical Society, held at Newport, Dr. Henry O. Walker was elected president; Dr. Oscar A. Jamison, vice-president; Dr. George K. Stephens, secretary, and Dr. Oscar E. Jones, treasurer, all of Newport.——At a meeting of the Desha County Medical Society, held at McGehee, Dr. Fred L. Duckworth, Walnut Lake, was elected president; Dr. R. R. King, vice-president; Dr. Jasper M. Stuart, McGehee, secretary.——The colored physicians and dentists of Jefferson County met at Pine Bluff, April 9, and organized a county association, electing Dr. John W. Rowland, president; Dr. George A. Flippin, vice-president; J. W. Parker, treasurer; F. P. Lytes, secretary, and Mr. F. W. Hunter, librarian, all of Pine Bluff.

CONNECTICUT.

Infectious Diseases.—During April, 355 cases of measles were reported from 47 towns; 162 cases of scarlet fever from 41 towns; 159 cases of diphtheria from 41 towns; 48 or more cases of whooping cough from 13 towns; 49 cases of consumption from 22 towns; 29 cases of typhoid fever from 16 towns, and 4 cases of cerebrospinal meningitis from 4 towns.

Society Meeting.—The Windham County Medical Association held its one hundred and fourteenth annual meeting in Willimantic, April 25. Dr. Charles J. LeClaire, Danielson, was elected president; Dr. Robert C. Paine, Thompson, vice-president; Dr. James L. Gardner, Central Village, secretary-treasurer; Dr. Frank E. Guild, Windham, councilor, and Dr. Theodore R. Parker, Willimantic, delegate to the state association.

Personal.—Dr. Charles A. Tuttle, New Haven, has been appointed a member of the consulting staff of the Bridgeport Hospital.——Dr. Lucy Creemer Peckham, New Haven, is reported to be seriously ill with heart disease at her home.——Dr. William N. Winne, Westville, has been appointed medical examiner for Woodbridge and Bethany, vice Dr. John W. Barker, Woodbridge, deceased.——Dr. Francis S. Skiff, Falls Village, is reported to be critically ill at the House of Mercy, Pittsfield, following a second operation for appendicitis.——Dr. Henry F. Stoll, Hartford, has contracted tuberculosis and has gone to Asheville, N. C., for his health.

April Deaths.—During the month of April 1,444 deaths were reported to the State Board of Health, 158 less than in March, 16 less than for the corresponding month of 1906, and 100 more than the average deaths for April for the five years preceding. This mortality is equivalent to an annual death

rate of 16.8 per 1,000. The deaths from infectious diseases were 261, or 18.4 per cent. of the total mortality. Pneumonia causes 208 deaths; heart diseases, 149; nervous diseases, 137; consumption, 125; accidents and violence, 74; influenza, 43; bronchitis, 35; diphtheria, 31; whooping cough, 19; measles and cerebrospinal meningitis, each, 9, and scarlet fever and typhoid fever, each, 8.

DELAWARE.

Anti-Spitting Ordinance.—Dr. Harrison W. Howell, Wilmington, president of the State Board of Health, has drafted an anti-spitting ordinance for Wilmington to make it unlawful to spit on any sidewalk or on the public floor of any hotel or lodging house, or on the floor, platform, steps or stairs of any public building, church, store, factory, street car, etc., and providing for a fine of from $5 to $20.

Tuberculosis Sanatorium.—The executive committee of the Delaware Anti-Tuberculosis Society met at Wilmington, April 12, when definite plans were arranged for the inauguration of a tuberculosis sanatorium, to be built near that city. There are to be ten plain wooden houses first erected, and during the summer an endeavor will be made to raise money to establish an administration building on the grounds.

ILLINOIS.

Personal.—Dr. and Mrs. Thomas C. McCord, Paris, sail for Europe, June 8.——Dr. Ralph T. Hinton, Quincy, has been appointed assistant physician at the Illinois Central Hospital for the Insane, Jacksonville.——Dr. John R. Tobin, Elgin, has been appointed surgeon for the Elgin & Belvidere Railroad.

Contagious Diseases.—Scarlet fever and diphtheria in mild type are prevalent in Bloomington, where 13 houses have been placed under quarantine.——The smallpox epidemic at Plainfield is reported to be subsiding. Out of a total of 27 families quarantined all have been released except six, and no new cases have developed.

Physicians Acquitted.—In the suit brought by John Gonsalve against Drs. Daniel M. Otis and Charles J. Graser, Springfield, to recover damages for a postmortem examination, alleged to have been made without the consent of relatives, the jury sustained the plea of the defendants that the deceased was a dependent person, and returned a verdict of not guilty.

Optometry Bill Vetoed.—Governor Deneen has vetoed the bill to regulate optometry. The Illinois State Medical Society, at its meeting in Rockford on May 23, extended a vote of thanks to Governor Deneen for his action. With the veto of this bill the medical profession of Illinois has succeeded in killing every objectionable bill introduced in the Forty-fifth General Assembly, including four "osteopathic," two "medicine peddler," two "optician," three "magnetic healer" and one "antivivisection" bill. Incidentally, every measure strongly supported by the medical profession became a law.

Chicago.

Fenger Memorial.—The Fenger Memorial Research Fund now amounts to about $5,000. It is the hope of the incorporators to raise the amount to $25,000, which will give an annual income of from $1,000 to $1,500 for the prosecution of original research work.

Death Report.—The deaths from all causes for the week ended March 25 numbered 641, or 66 less than for the preceding week, and 11 less than for the corresponding week of 1906. Pneumonia still led death causes with 158. Consumption caused 76 deaths; violence (including suicide), 49; nephritis, 42; heart diseases, 40; acute intestinal diseases, 30; measles, 15; scarlet fever, 11; diphtheria, 8; whooping-cough, 3, and typhoid fever and influenza, each 2.

Quack Advertisers Debarred.—The Assistant Attorney General for the Postoffice Department at Washington has notified the Chicago postmaster that the Postmaster-General has declared unmailable certain advertisements because they contain information as to where abortifacients and criminal operations can be obtained, in violation of the statutes of the United States. It is ordered that any papers carrying these advertisements will be refused admission to the mails, and the newspapers of Chicago have been notified to this effect. The advertisements in question are of the following:

Dr. McGrath, 78 State Street.
Dr. E. J. Dennis, 163 State Street and 182 State Street.
Dr. Henry and Dr. R. Henry, 145 and 146 State Street.
Top Floor, Dr. Martha Walker and Dr. Martha Walker Remedy Company, 1448 State Street.
Woman's Remedy Company, 182 State Street.
Mrs. A. Becker, 595 West Monroe Street.
Mrs. Bing, 328 East North Avenue.
Mrs. Horta Faustman, 484 North Clark Street.
Mrs. Reb, 484 North Clark Street.
Dr. Lucy Hagenow, 480 North Clark Street.
Ida von Schultz, 480 North Clark Street.
Mrs. Malchrowitz, 385 Wells Street.
Private Hospital, 279 West Adams Street.
Dr. Josephine Rafferty, 1840 Indiana Avenue.
Mrs. Swift, 3326 Indiana Avenue.
Mrs. White, 2509 Wabash Avenue.
Dr. W. F. Briney, 182 State Street.
Dr. Carpenter, 148 State Street.
North Side Dispensary, 1841 Clark Street.
Private Medical Institute, 185 Dearborn Street.
Dr. Arnold, 182 State Street.

Directions have also been given by the Postmaster-General, under the provisions of the act of March 2, 1889, to treat as fictitious all mail addressed to the following of the above names, which are assumed and fictitious: Dr. Henry and Dr. R. Henry, Woman's Remedy Company, Top Floor, Dr. Martha Walker and Dr. Martha Walker Remedy Company, Private Hospital, North Side Dispensary, Private Medical Institute and Dr. Arnold.

INDIANA.

Commencement.—The commencement exercises of the Indiana University School of Medicine and the affiliated State College of Physicians and Surgeons were held at Indiana University May 18. The medical degree was conferred by Indiana University on a class of 25. The address, "Medical Education in America," was delivered by Dr. Arthur Dean Bevan of Chicago. At the banquet following the exercises announcement was made of the presentation by Dr. Bevan of a $75 microscope as a prize for the best student in anatomy next year.

Personal.—Dr. George C. Maughner, Kokomo, was dangerously injured May 19, by a collision between the autmobile in which he was riding and a street car.—Dr. Zelotus C. Wolfe, Corydon, who has been seriously ill with pneumonia, is convalescent and has gone to West Baden.——Dr. Philip Warter has taken charge of the department of nervous diseases at the Gilbert Memorial Sanatorium, Evansville.——Dr. John R. Mauk, Cambridge City, the oldest member of the Wayne County Medical Society, was presented with a cane at a meeting of the society, May 20.

LOUISIANA.

Personal.—Dr. Archibald B. Nelson, Arcadia, has been appointed coroner of Bienville Parish, vice Dr. John H. Givens, deceased.——Drs. Carrollton Cammack and C. C. Jauquet have been appointed resident surgeons at the Eye, Ear, Nose and Throat Hospital, New Orleans.

Society Meeting.—The Calcasieu Parish Medical Society held a meeting for reorganization at Lake Charles, April 26, of which Dr. Allen J. Perkins was temporary chairman. The following officers were elected: President, Dr. Valarion A. Miller, Lake Arthur; vice-president, Dr. Thomas H. Watkins, Lake Charles, and secretary-treasurer, Dr. Samuel Kreger, Lake Charles.

Hospital Notes.—The New Orleans Eye, Ear, Nose and Throat Hospital treated 6,464 patients during last year, 3,113 of whom were in the eye department, 3,283 in the ear, nose and throat department, 56 in the dermatologic and 12 in the dental. The total consultations were 43,840, an increase of 3,322 over the preceding year. The following staff was re-elected: Dr. Arthur W. DeRoaldes, surgeon-in-chief; Dr. Henry D. Bruns, surgeon in charge of the eye department; and Dr. Gordon King, surgeon in charge of the ear, nose and throat department.——The formal dedicatory exercises of the New Orleans Convalescent Home were held May 5. An address was given by Rev. W. T. Palmer, and the history of the home was given by Rev. John A. Rice. The institution has a capacity of 22 beds, of which 20 are for male patients.

MARYLAND.

Baltimore.

Against Mosquitoes.—Dr. William N. Hill, head of the "Mosquito Brigade," is delivering illustrated lectures before various business organizations of the city in prosecution of the war against mosquitoes.

Commencement.—The ninth annual commencement of the Maryland Medical College was held May 23, when a class of 29 was graduated. Dr. J. B. Schwatka conferred the diplomas and Dr. G. Milton Linthicum delivered the doctorate address.

Pure Milk Crusade.—The Babies Milk Fund Association, which was founded in 1904 and has eight stations in the city,

and of which Dr. J. H. Mason Knox is medical superintendent, is seeking assistance in its work of furnishing pure milk, and instructing mothers as to the feeding of infants.

Personal.—Drs. E. H. Brannon, William W. Hala and William L. Brent of the Insane Department of Bay View Asylum have resigned.——Drs. Thomas S. Cullen, S. Griffith Davis and Nathan R. Gorter are taking a trip to Chicago and Rochester, Minn.——Dr. Newdigate M. Owensby, physician in charge of the insane department of Bay View Asylum, is inspecting the insane hospitals of England and Scotland.——Dr. William G. Simon, who has been in charge of the Henry Bower Chemical Company for 37 years, has resigned and will soon sail for Europe.

MASSACHUSETTS.

Meningitis.—The spread of cerebrospinal meningitis is alarming the physicians of Boston. During the first four months of the year, 45 patients were treated at the City Hospital, as against 31 cases during the first four months of 1905. The death rate for 1905 was 63 per cent. and for this year 75 per cent.

Personal.—Dr. William L. Richardson has resigned the chair of obstetrics and the deanship of Harvard University Medical School.——Dr. Samuel H. Durgin has been elected chairman of the Boston Board of Health.——Dr. Henry A. Christian has been appointed chief physician at the Carney Hospital, South Boston, and Dr. Thomas J. Leen, Charlestown, assistant.

To Suppress Rabies.—At the Boston Medical Library meeting May 1, the session was devoted to the consideration of rabies. Dr. Charles P. Sylvester spoke on "Hydrophobia and Its Prevention;" Dr. Austin Peters on "Rabies in Massachusetts, Its Prevalence and Methods of Prevention," and Dr. Langdon Frothingham on "The Diagnosis of Rabies." The number of cases of rabies in Massachusetts during the last year has been very large. In some localities the skepticism and inactivity of the public have been such that the enforcement of proper restrictive measures is difficult. It is believed that rabies can be eradicated in six months if the community will only insist on measures similar to those which have resulted in its suppression in Great Britain.

Society Meetings.—At the annual meeting of the Worcester North Medical Society, April 23, the following officers were elected: President, Dr. Alvaro Mossman, Westminster; vice-president, Dr. John G. Henry, Winchendon; secretary, Dr. Walter F. Sawyer, Fitchburg; treasurer, Dr. Eustace L. Fiske, Fitchburg; committee on trials, Dr. Luther G. Chandler, Townsend, and librarian, Dr. Atherton P. Mason, Fitchburg.——At the quarterly meeting of the Berkshire County Medical Society, held in Pittsfield, April 25, the following officers were elected: President, Dr. George L. Rice, North Adams; vice-president, Dr. John J. Hassett, Lee; secretary, Dr. Isaac S. F. Dodd, Pittsfield; treasurer, Dr. William L. Paddock, Pittsfield, and commissioner on trials, Dr. Albert T. Wakefield, Sheffield. ——At the annual meeting of the Essex North District Medical Society, held at Lawrence, May 1, resolutions were adopted concerning insurance examination fees. The comprehensive form forwarded by the Kentucky State Association and approved by the American Medical Association was favored and a copy will be sent by the secretary to all legally qualified physicians in the jurisdiction of the society and to all insurance companies licensed in Massachusetts and paying less than $5 for medical examinations. The society will take up at the next meeting a discussion of the evils of contract and lodge practice. The following officers were elected: President, Dr. William J. Sullivan, Lawrence; vice-president, Dr. Charles E. Durant, Haverhill; secretary-treasurer, Dr. Maurice D. Clarke, Haverhill; corresponding secretary, Dr. Robert D. Hamilton, Newburyport, and commissioner of trials, Dr. John F. Young, Newburyport.——The following officers have been elected for the Massachusetts Emergency and Hygiene Association: President, Dr. James J. Minot; vice-presidents, Drs. Henry P. Walcott, Charles B. Porter, Frank Wells, William L. Richardson, Oliver F. Wadsworth and Elbridge G. Cutler; treasurer, Dr. Harry W. Goodall, and members of the executive committee, Drs. Arthur K. Stone, William H. Devine and Thomas J. Manahan, all of Boston.

MICHIGAN.

Tuberculosis Colony.—The city council of Kalamazoo has decided to establish a municipal tuberculosis colony on the hills near the city.

Commencement.—The thirty-ninth annual commencement of the Detroit College of Medicine was held May 30 at the Light Guard Armory.

Contagious Diseases.—Diphtheria has broken out at Big Rapids, where several cases and one death have occurred.—— Seven cases of smallpox have been reported at Saginaw during the last week.——The smallpox patients at the Detention Hospital, Calumet, are doing well and a decrease in smallpox has resulted from the vigorous efforts of the health board.—— Smallpox is said to have been prevalent in Sturgis since last fall, where it was known as "brass-molders disease." Dr. Frank W. Shumway, Lansing, secretary of the State Board of Health, who investigated, found 30 cases of smallpox.

MISSOURI.

Interne Examination.—A competitive examination for 32 internships at the City and Emergency hospitals, St. Louis, was held May 20. Fifty-seven applicants took the examination.

Graduation Exercises.—The seventeenth annual commencement of the St. Louis University was held May 18, when a class of 56 was graduated. Prof. George Neil Stewart delivered the doctorate address on "The Outlook in Medicine."

Quarantine Boat.—The new quarantine boat of the health department made its initial trip to the Isolation Hospital, May 1. The boat has been built at a cost of about $5,000, and will be used for the conveyance of contagious-disease patients to the Isolation Hospital, two miles below Jefferson barracks.

Tuberculosis Sanatorium.—The Missouri State Tuberculosis Sanatorium, Mt. Vernon, will be formally opened June 1. The institution has accommodation for 50 patients. The Board of Managers met and organized May 16. Dr. Jesse L. Eaton, Bismarck, was elected president, and Dr. William Bayliss superintendent.

Personal.—Dr. Joseph P. Ghio has resigned as a member of the staff of the St. Louis City Dispensary. Dr. Arthur Friedeberg, who succeeded Dr. Ghio, resigned after two days' service ——Dr. Harry M. Thomas, St. Louis, has accepted an appointment as Sunday school missionary of the Presbyterian Church. ——Dr. Albert H. Myerdick has been appointed assistant chief dispensary physician of St. Louis.——Dr. John C. Hickerson has been appointed emergency physician and Dr. Benjamin F. O'Daniel city physician of Independence.

Tribute to Ian Maclaren.—The St. Louis Medical Society at a recent meeting bore witness to its regret at the death of Rev. John Watson by adopting the following preamble and resolution:

WHEREAS, In drawing the character of Dr. Weelum MacLure as a doctor of the old school, Ian Maclaren paid a well-merited tribute to the integrity, faithfulness and unselfishness of the medical profession—the justness and fidelity of which picture is evidence by the early, wide and continued popularity of his book, "Beside the Bonnie Brier Bush;" therefore,

Resolved, That the St. Louis Medical Society testifies its deep regret at the sudden demise of the author, Rev. John Watson, which occurred on the 7th instant, and in recognition of his service to our profession would earnestly recommend to all medical men a study of the character of Dr. Weelum MacLure, depicted in the writings of Ian Maclaren, as a conspicuous example of the high standard of conscientiousness and devotion to duty which it is incumbent on all true physicians ever to uphold in their professional life and work.

NEW JERSEY.

School Physicians Authorized.—The school board of Atlantic City has authorized two physicians, at a salary of $400 per annum each, whose duty it will be to look after defective children and pupils who need medical attention.

Personal.—Dr. William H. Pounds was appointed president of the newly organized board of health of Paulsboro, and Dr. George C. Laws was appointed medical inspector.——Dr. Charles H. Braddock, chief medical inspector of the Siamese government, has returned to his home in Haddonfield.——Dr. Laban Dennis, president of the Newark Bureau of Associated Charities for 24 years, resigned at a meeting of the Bureau May 20.

State Tuberculosis Sanatorium.—Dr. Henry Davis of Camden was elected medical superintendent of the State Sanatorium for Tuberculosis, Glen Gardner, May 24. The position carries a salary of $3,600. The sanatorium, erected at a cost of $250,000, will be opened for the reception of patients in August. The Tuberculosis Commission reorganized for the year by electing the following officers: President, W. C. Jones, Camden, and vice-president, Dr. Elmer Barwis, Trenton.

NEW YORK.

New Convalescent Home.—The Society for Improving the Condition of the Poor has started a home at Hartsdale, N. Y., known as the Caroline Rest, where East Side mothers are sent after confinement to regain strength, and to learn how to care for their infants. The name of the donor of the funds for the founding and support of this work has been withheld from the public.

Two Bills for Legislature.—A new bill would make it a felony for a person having in his charge a human being, sick or disabled, to fail to provide attendance of a competent licensed physician, or, if unable, to notify the local board of health. In the latter case the board shall furnish a physician and medicines.——Another bill is being prepared which provides for the placing of physicians in police stations to examine prisoners charged with intoxication. This bill will be hurried in on account of Dr. C. A. Foster's death in a police station, where he had been taken by a policeman who supposed he was suffering from alcoholism, when in reality he had uremia.

New York City.

Lowest Death Rate of Year.—The death rate for the week ended May 18 was the lowest of the present year, being at an annual rate of 17.91 per 1,000, while that for the corresponding week of last year was 19.66. The number of deaths from typhoid fever was 18, as against 4 for the corresponding week of last year.

Personal.—Drs. and Mesdames S. Oakley Vander Poel, Walter B. James and John A. Robinson have sailed for Europe.——Dr. Willard Parker, who has been ill for some time with rheumatism, is better.——Dr. Charles W. Pilgrim has resigned as president of the state lunacy commission and has been reappointed as superintendent of the Hudson River State Hospital ——Dr. Emanuel D. Lederman has given up the practice of medicine in New York City to accept the presidency of the Sterling Realty Co., San Francisco.

Hospital Reports.—The thirty-fifth annual report of Roosevelt Hospital shows that during the year ended Dec. 31, 1906 there were 4,404 patients under treatment in the wards, while 13,460 were treated in the emergency department, but not detained in a ward. These numbers are larger than for the previous year by 370 for the ward department and by 941 for the emergency department.—Plans have been filed for the enlargement of the House of Relief of the New York Hospital, at Hudson and Jay Streets. The annex is to be 25x53 feet and will cost $40,000.

Health Department Physicians Overworked.—The physicians employed by the health department have entered a protest, claiming that they have been very much overworked and underpaid. In some instances they have been forced to work eighteen hours when they should only have worked six hours. This state of affairs is brought about when a number of physicians are ill and others have to do their work. Dr. Darlington is making an effort to reorganize the department and to make it a model department, and has assured the physicians that as soon as there is enough money more appointments will be made.

To Inspect Watershed.—Dr. Darlington and Assistant Corporation Counsel Walker are to make a personal inspection of the watershed with the idea of getting exact data as to the conditions, the continuation of which are likely to cause pollution of the city water supply. It is said that 2,000 gallons of water infected by sewage run every hour from the Mount Kisco district into the Croton system. There are more than 2,000 suspected places to be examined. The corporation counsel is laboring with the State Board of Health to have this pollution stopped and the board has indicated a willingness to do its part.

Milk Commission Reports.—The commission appointed by Mayor McClellan to investigate the condition of the milk supply has submitted its report. The advisability of pasteurizing all milk that might come under suspicion was admitted, but the conclusion was reached that the primary need in order to prevent the sale of bad milk is the organizing of a comprehensive and thorough system of inspection at the dairies and shipping centers. The report states that at least 100 inspectors for country districts from which the milk comes, in addition to the 15 now employed, should be appointed to act in such capacity as the health department may decide. The commission recommends that the board of health should according to circumstances, require efficient sterilization or pasteurization of all milk which it finds unsafe for consumption on account of suspicion of tuberculosis, or other disease of the cows, or unsanitary conditions at the dairy, or a persistent high bacterial count. In every instance milk so heated should be rapidly cooled to 40 F. The pasteurization should be done only a few hours before delivery, and should be marked with the time and date of pasteurization and the duration of the temperature employed for the purpose. In the opinion of the commission not less than 25 additional inspectors should be provided for the inspection of milk in New York City; also five additional bacteriologists and five additional chemists, with remuneration adequate to secure competent men.——The ordinance for the regulation of the sale of milk in this city has failed of passage. The issue that was made was that if there was to be pasteurization, it would have to be done at the city's expense, for to permit large companies to pasteurize their own milk would crowd out smaller dealers.

NORTH CAROLINA.

State Sanatorium Site Bought.—The state tuberculosis commission has purchased a farm of 800 acres in Moore County, on which the State Tuberculosis Hospital, authorized at the recent session of the legislature, will be located.

Commencement.—The twenty-second annual commencement of the Leonard Medical College (colored) was held at Raleigh, May 9, when a class of 20 received diplomas. The address to the graduates was delivered by Rev. W. M. Weeks, D.D., Springfield, Mass.

District Society Organized.—At a meeting of the physicians of the ten counties composing the sixth councilor district the Sixth District Medical Association was organized at Durham, April 27, with Dr. Augustus W. Knox, Raleigh, as president, and Dr. Joseph Graham, Durham, secretary.

Hospital for Epileptics.—The state hospital commission has decided to proceed at once with the erection of suitable buildings at Raleigh for the care of white epileptics and also to erect a building at Goldsboro for the accommodation of colored epileptics. Dr. James W. McNeill, Hope Mills, of the commission, and the superintendents of the three state hospitals for the insane, were designated as a committee to visit the various hospitals for epileptics in other states, and report regarding the same before proceeding with the erection.

OKLAHOMA.

Personal.—Dr. and Mrs. L. Haynes Buxton and daughter, Oklahoma City, have gone to Europe.——Dr. Eckley G. Sharp, Guthrie, was thrown from his buggy in a runaway accident, May 11, breaking two ribs.

Society Meeting.—The Central Oklahoma Medical Association, at its meeting, held in Guthrie, April 10, elected the following officers: Dr. H. Coulter Todd, Oklahoma City, president; Drs. John H. Barnes, Helena, and Newton Rector, Hennessey, vice-presidents, and Dr. George A. Boyle, Enid, secretary-treasurer.

State Association Meeting.—At the annual meeting of the Oklahoma State Medical Association, held in Shawnee, May 15-16, the following officers were elected: President, Dr. Charles S. Bobo, Norman; vice-presidents, Drs. Walter C. Bradford, Shawnee, and Floyd E. Warterfield, Holdenville, and secretary-treasurer, Dr. Eugene O. Barker, Guthrie. Sulphur was chosen as the next place of meeting.

PENNSYLVANIA.

Philadelphia.

Hospital Enlarged.—A new building is to be added to the American Hospital for Diseases of the Stomach. The new structure will be a fire-proof, four-story building, containing 35 rooms.

Personal.—Dr. William J. Roe has been appointed oral surgeon to the Philadelphia Hospital.——Dr. H. H. Bethel sailed for Europe, May 24.——Mr. Joseph L. Baldwin was appointed assistant director of health and charities, May 23.

Commencement.—The fifty-fifth annual commencement of the Woman's Medical College was held May 22. The diplomas were presented by Dr. Clara Marshall, dean of the college, and the graduating class of 29 was addressed by Dr. Earl Barnes, Montclair, N. J., a staff lecturer of the American Association for the Extension of University Teaching.

Reception to A. M. A. Guests.—The Medical Club of Philadelphia will give a reception Friday, June 7, at 9 p. m. at the Bellevue-Stratford, in honor of Dr. Joseph D. Bryant, president of the American Medical Association, the president-elect of the Association, the presidents of the medical societies of the states of Pennsylvania, Delaware and New Jersey, and other prominent physicians from this country and abroad in attendance at the Atlantic City meeting of the Association.

Receptions.—Dr. Robert Jones of Liverpool, Eng., visited the medical colleges and hospitals of this city, May 21 and 22, with a view of establishing a children's hospital in Liverpool. Dr. Jones was given a reception by Dr. H. Augustus Wilson at the University Club, May 22, at which nearly 400 physicians were present.——Dr. Susan Hayhurst, the oldest living graduate of the Woman's Medical College, was given an informal reception,

May 24, at the Woman's Hospital, in honor of the fiftieth anniversary of her graduation from the college. Dr. Hayhurst has been chief pharmacist of the Woman's Hospital since 1876.

Health Report.—The report of the bureau of health for the week ended May 25 shows that the total number of deaths reported aggregated 449. This is an increase of 14 over the number reported during the preceding week and a decrease of 24 from the number reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 9; diphtheria, 10; cerebrospinal meningitis, 9; consumption, 74; cancer, 20; alcoholism, 5; apoplexy, 12; heart disease, 38; acute respiratory disease, 55; enteritis, 21; hepatic cirrhosis, 7; appendicitis, 2; Bright's disease, 43; congenital debility, 10; suicide, 5; accidents, 20, and marasmus, 4. There were 177 cases of contagious disease reported, with 19 deaths, as compared with 182 cases and 31 deaths recorded in the previous seven days.

Tablet to Dr. Jacobi.—A tablet to the memory of Dr. Mary Putnam Jacobi was unveiled in the Woman's Medical College, May 23. The presentation address was delivered by Dr. Bertha Lewis on behalf of the Alumnæ Association, and Dr. William Welch, Baltimore, accepted the tablet on behalf of the corporators. The memorial tablet is composed of brass and inscribed as follows: "In memoriam, Mary Putnam Jacobi, class of 1864, Woman's Medical College of Pennsylvania; president of the Alumnæ Association 1888-1891 and 1894-1895. Ecole de Médecine, Paris, class of 1871; professor of materia medica and therapeutics, Woman's Medical College of the New York Infirmary; professor of the diseases of children, New York Post-Graduate Medical College and Hospital; fellow of the New York Academy of Medicine. A distinguished contributor to medical literature, and one of the most eminent women of her time in the medical profession."

RHODE ISLAND.

Physicians Ill.—Drs. Robert F. Noyes and Arthur T. Jones, Providence, are reported convalescent.

Ambulance for Newport.—Col. Delancey Kane, on behalf of the summer residents, has presented Newport with an ambulance, fully equipped with horses, drivers and attendants.

Medical Society Meeting.—The Pawtucket Medical Association, at its annual meeting, elected the following officers: President, Dr. George J. Howe, Central Falls; vice-president, Dr. John H. Bennett, Central Falls; secretary, Dr. Adolph R. V. Fenwick, Central Falls; treasurer, Dr. Bernard L. Towle, Pawtucket; and member of the standing committee and councilor to the state society, Dr. Augustine A. Mann, Central Falls.

WEST VIRGINIA.

Hospital Notes.—The contract has been let for the erection of a new building for the Sheltering Arms Hospital, Hansford. The hospital will have a capacity for about 125 patients and will cost about $75,000.

Election.—At the annual meeting of the Monongalia County Medical Society, held in Morgantown, the following officers were elected: President, Dr. Cyrus H. Maxwell; vice-president, Dr. Robert W. Fisher; secretary, Dr. Francis T. Haught; treasurer, Dr. Allen Bush; delegate to the state medical association, Dr. Robert W. Fisher, and alternate, Dr. Cyrus H. Maxwell, all of Morgantown.

GENERAL.

Medical Librarians.—The tenth annual meeting of the Association of Medical Librarians, of which Dr. George Dock, Ann Arbor, Mich., is president and Dr. Albert T. Huntington, Brooklyn, N. Y., secretary, will be held at the Marlborough-Blenheim Hotel, Atlantic City, N. J., at 3 p. m., June 3.

Tropical Medicine Meeting.—The American Society of Tropical Medicine will hold a meeting in Philadelphia at the close of the Atlantic City meeting of the American Medical Association, Friday evening, June 7, at 8:15, in the amphitheater of the Philadelphia Polyclinic Hospital, 1818 Lombard Street. Dr. J. H. White of the United States Public Health and Marine-Hospital Service, medical officer in command of the New Orleans Quarantine Office, will deliver an address on "The Prophylaxis of Tropical Diseases." All physicians who are stopping in Philadelphia are cordially invited to attend.

CANADA.

Hospital News.—Winnipeg has just completed a new quarantine hospital of fifty beds.——The smallpox hospital at Winnipeg has been closed, as all the patients have been released.

Society Meetings.—At the annual meeting of the Central Ontario Medical Society held in Peterboro, April 25, the following officers were elected: President, Dr. John H. Eastwood; vice-presidents, Drs. Joseph A. Morgan and Mars McClelland; secretary, Dr. J. Malcolm McColloch, and treasurer, Dr. William D. Scott, all of Peterboro.

Personal.—Dr. Gilbert Tweedie, for more than 20 years medical superintendent of Toronto Isolation Hospital, has resigned on account of advancing age and infirmity.——Dr. Amedée Marien, professor of histology at Laval University, has been appointed surgeon of the Hôtel Dieu, Montreal, vice the late Sir William Hales Hingston.——Dr. J. L. Robinson, medical superintendent of the Vancouver (B. C.) General Hospital, is inspecting the hospitals of the province of Quebec.——Dr. James Russell, superintendent of the Hamilton Asylum for the Insane, has retired.——Dr. Scott has been appointed health officer of Winkler, Manitoba, vice Dr. Nelson G. Cooper.——Drs. Allan R. Cunningham and Frank V. Woodbury have been appointed medical examiners of public school children for Halifax.——Dr. Fred L. Beer, Carlisle, Manitoba, has been appointed medical advisor to the Indians of the White Bear Reservation.

FOREIGN.

Gratuitous Care of Obstetric Patients in Turkey.—Accoucheurs for each municipal district in Constantinople will render gratuitous services to poor women in confinement. These physicians will be chosen by the faculty of the Haidar-Pasha School of Medicine, and a medical inspector will see that they conscientiously fulfill their obligations.

Expeditions to Study Sleeping Sickness.—The Liverpool School of Tropical Medicine has sent an expedition to Central Africa to study sleeping sickness and to advise means whereby it can be prevented from spreading into regions not yet infected. The expedition, which consists of Dr. Allan Kingford and Mr. R. Eustace Montgomery, will visit British East Africa, British Central Africa, Rhodesia, the Portuguese territories and the Congo Free State. The British government, the British South Africa Company, the Congo Free State, the Portuguese government, the Tanganyika concessions, the African Lakes corporation and others interested are cooperating. The Cape government is giving free transportation over its lines and much other valuable assistance is being rendered. The French expedition recently sent out for the same purpose is located at Brazzaville in the French Congo, while the German expedition, under Koch, has been at work on an island in the lake Victoria Nyanza for some months.

Extinction of Yellow Fever at Rio de Janeiro.—The *Brazil Medico* details the results accomplished by the mosquito brigades in charge of J. I. de Oliveria Borges. According to the tables given, the total mortality from yellow fever at Rio was seldom less than 800 and was often over 2,000 and 4,000, between 1872 and 1902. The prophylactic measures adopted in 1903-4 reduced the mortality to 48 and in 1906 it was only 42. Yellow fever has ceased to be endemic or epidemic. The mosquito prophylaxis has enabled imported foci to be stamped out at once, and no new cases occur the following year in houses that had sheltered the cases. Equally brilliant results were obtained in ships in the port. The results are the more remarkable as extensive public works have been under way, which, in former times, with the arrival of non-immune laborers, would have contributed to the importation and spread of the disease. There is considerable immigration at Rio. Over 23,000 immigrants entered this port last year, but this importation of non-immunes had no effect on the yellow-fever mortality.

Biologic Test to be Applied in Medicolegal Cases in Austria.—The authorities in Austria have announced by a recent decree that the various universities are to be equipped for the biologic test for blood, and the courts are instructed to apply to them for a decision in regard to the origin of blood in dubious cases. The decree states that the biologic test for differentiation of albumin has been proved reliable by numerous scientific experiences at home and abroad. The university institutes are to be supplied with the prepared serum from the central institute at Vienna, and they are instructed to supplement the biologic test with spectroscopic and microscopic examination. The details of the decree are given in the *Wien. klin. Wochschr.* for May 9, which also contains an article describing important research which has demonstrated that the biologic test seems to be equally specific and reliable when applied to fecal substance. The serum of rabbits injected with suspensions of animal dung acquired specific properties in respect to the dung of the species of animal in question. The character of the food is immaterial. The positive response is evidently due to a specific albumin in the feces, and the author, Brezina, is now studying to locate the special glands in

the digestive tract which produce the biologically active substance.

Regulations to Correct Dispensary Abuse.—A committee of fifteen physicians has been studying this subject in Berlin, and according to its recommendations the following regulations have been tentatively tried at Borchardt's surgical policlinic. Every applicant is admitted and examined, but further treatment is given to applicants only in exceptionally interesting cases or those especially useful for teaching purposes, or when the applicants are unable to pay for treatment and have no claims on outside insurance companies or lodges for medical attendance. Each applicant receives a card from the doorkeeper which he hands the examining physician. The applicant's name, nationality, the diagnosis and mention whether he is to be allowed further treatment, are all entered in the dispensary records. The patient is then given a card with the diagnosis on the back, but if he is not to be admitted to further treatment a red stamp is pasted on the card. The dispensary is required to keep a record of the number of applicants, those treated and those rejected. This plan has been in operation at the policlinic since the beginning of the year. Without reducing the material needed for educational purposes, the work of the policlinic has been cut down one-fourth and will probably be still further reduced with wider experience. The *Med. Klinik* states further that time has shown that as many as 75 per cent. of the patients who were refused further treatment were sent back again to the policlinic by their physicians.

LONDON LETTER.

(From our Regular Correspondent.)

LONDON, May 8, 1907.

Recovery of Speech Lost Six Years.

A remarkable case of recovery of speech after a shock has occurred in the Croydon workhouse. The patient is a man, aged 42, who in 1901 lost his speech in consequence of the shock of falling over a dog in coming downstairs. He was treated by several doctors without success. They could only hold out to him the hope that his speech might be restored by a second shock. He entered the workhouse in March, 1904. While at his work he pulled over a lemonade syphon from a high shelf, but caught it as it fell. The shock was only slight, but in the excitement he made an exclamation. He then realized that he could speak. His former employers offered to take him back.

Outrage on a Doctor for Certifying a Lunatic.

Some twelve months ago Dr. Carswell of Glasgow certified as insane a man, who accordingly was confined in an asylum. On his release he brought an action for damages against the doctor. After a prolonged trial a verdict was given for the latter entirely exonerating him. No costs could be recovered from the plaintiff, who was impecunious, and the doctor lost several hundred pounds in defending himself. Not satisfied with this injury the man lay in wait for the doctor and shot him with a revolver. By good fortune the doctor escaped with his life, one of the bullets just missing the femoral artery.

The Epidemiology of Malta Fever.

A commission sent by the Royal Society to investigate Malta fever has achieved remarkable results. This disease offers a serious problem to the military authorities, as it causes invaliding among the soldiers to the extent of 3.76 per cent., and among the sailors of 2.85 per cent. The commission determined that the *Micrococcus melitensis* did not gain entrance by contact, for no case was known of its arising among patients or nurses from any of the cases invalided home. There was no evidence that inhalation of dust or the bites of mosquitoes played any part. But the disease can be conveyed to animals by the alimentary canal. A single drink of fluid containing a few micrococci is sufficient. While at first the water supply and food supply were not suspected, it was found that the goats of Malta were a veritable reservoir for the fever. Fifty per cent. of them responded to the agglutination test and 10 per cent secreted the micrococcus in their milk. Monkeys fed from an infected goat almost invariably contracted the disease. Confirmatory evidence of the part played by the goat was the fact that the disappearance of Malta fever from Gibraltar was associated with the disappearance of the Maltese goat from that locality. Accordingly, preventive measures were begun in June, 1906, and a remarkable diminution of the fever at once began. The cases have dropped in the island to 10 per cent. of their normal number, and since discontinuance of the use of goat's milk in the Naval Hospital not a single case has occurred there.

Pharmacology

OFFICIAL PREPARATIONS ON EXHIBIT AT ATLANTIC CITY.

The Philadelphia branch of the American Pharmaceutical Association, in cooperation with pharmacists elsewhere, is proposing to display in the Exhibit Hall at Atlantic City a line of official preparations compounded by retail pharmacists. The object is to show what the ordinary retail pharmacist can do; we understand that most of the preparations will be similar to some of the much advertised proprietaries. In connection with the exhibit a pamphlet will be distributed calling attention to some of the phases of the proprietary business. We have been favored with an advanced copy of some of the matter that is to appear in this pamphlet, and we shall probably take occasion to publish some of the matter in this department. This week we publish the chapter on the clay poultices, which is as follows:

THE CLAY MIXTURES.

With the possible exception of the acetanilid mixtures, the glycerin-mud poultice, in the form of the proprietary mixtures now on the market, has probably been fraught with more deception and harm than any other type of preparation.

The popularity or the widespread use of mixtures of this type is best exemplified by the fact that the Committee on Revision of the United States Pharmacopeia has seen fit to introduce into the present Pharmacopeia a modification of the Glycerin Plasma, official thirty or more years ago. This mixture, it is expected, will replace many of the proprietary mud poultices that are now being exploited, under proprietary names, such as antiphlogistine, creta-methyl and Mey's poultice.

Before taking up the discussion of the ridiculously false claims of originality made by the manufacturers of one of the mixtures, it may be worth while to call attention to the assertions that are made as to the therapeutic efficaciousness of the clay poultice.

As a type of the character of the advertisement of these substances, we may quote from one of the pamphlets published by the Denver Chemical Manufacturing Company:

"Incipient pulmonary tuberculosis, especially that consequent upon unresolved pneumonia, can always be greatly benefited and very often cleared up by the continuous use of Antiphlogistine."

"Pelvic peritonitis, metritis, endometritis, ovaritis, ovarian neuralgia and dysmenorrhea are some of the diseases in which the use of Antiphlogistine is indicated."

"Amputations are sometimes avoided by the use of Antiphlogistine in cases of threatened gangrene."

For fear that the average medical practitioner, or the layman into whose hands the pamphlet falls, would not know which disorders are amenable to this wonderful remedy, the manufacturers have added, on a succeeding page, with glowing headlines, the following list:

RELIEF QUICK AND CERTAIN.

ANTIPHLOGISTINE
WILL GIVE INSTANT RELIEF IN

PNEUMONIA,	CHRONIC ULCERS,	POISONED WOUNDS,
BRONCHITIS,	ORCHITIS,	DYSMENORRHEA,
PELVIC INFLAMMATION,	TONSILLITIS,	SPRAINS,
OSTITIS,	PILES (external),	BURNS,
INFLAMED BREASTS,	BOILS,	SYNOVITIS,
TUMORS,	ERYSIPELAS,	SUNBURN,
PERITONITIS,	PERIOSTITIS,	FROST-BITE,

AND WHEREVER INFLAMMATION AND CONGESTION ARE A FACTOR.

This formidable list, coupled with a host of other conditions mentioned in the pamphlets issued by the manufacturers of antiphlogistine, will readily account for the widespread popular use of this particular preparation.

To insure its continued use among the laity, each package of antiphlogistine contains a circular with full directions how to use the preparation, in 30 specified conditions, and a lengthy dissertation on the advantages of antiphlogistine.

In this connection it is interesting to call attention to the experiments by Dr. Augustus H. Roth, carried out in the University of Michigan and published in THE JOURNAL of the American Medical Association, April 15, 1905, page 1185. It is evident that any curative powers that these agents may possess is chiefly as carriers of heat and moisture, the statements of the wonderful effects of their hygroscopic power

being so manifestly absurd as to be unworthy of refutation. In the experiments by Dr. Roth, it was shown that the kaolin mixture, either in the form of the official cataplasm or of the proprietary article, does not retain heat as well as an ordinary flaxseed poultice under similar conditions.

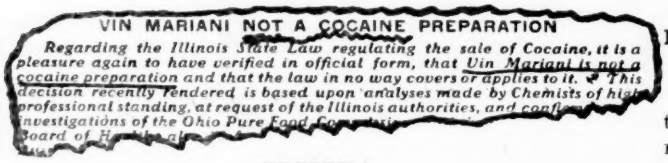
Among the most interesting features in connection with these proprietary mud poultices are the various claims for originality. One of the standard arguments of the manufacturer of proprietary mixtures is that the origin and perfection of these preparations has entailed much experimentation and research and has led to the acquisition of such extraordinary skill, in the production of the preparation, that even after the formula is known the ordinary druggist is unable to make them. Another argument that is frequently advanced relates to the immense benefit that has been done the human race by the stimulation of legitimate pharmacy through the introduction of proprietary mixtures. The general falseness of these arguments is particularly well demonstrated in the case of preparations of the mud-poultice type.

In 1857 Dr. G. F. Schacht introduced into England glycerin starch plasma as an ointment base, a similar preparation having been in use on the Continent for several years. This preparation was objected to by some on account of the starch, and in 1858 Mr. James T. W. Smith (*Pharmaceutical Journal*, London, March, 1858) proposed as a substitute a mixture of equal parts of glycerin and Fuller's earth.

The use of glycerin plasma as a poultice was also established many years before it was discovered by the Denver Chemical Company. In the first edition of the National Dispensatory, published in 1879, we find under glycerin starch plasma, the assertion: "It answers the purpose of a light poultice in erythema, furuncle, intertrigo and various other local inflammations of the skin."

As a poultice the glycerin clay mixtures have the advantage over the flaxseed meal poultice, chiefly, if not entirely, in their ease of application. In order to meet a legitimate demand for a preparation of this kind, and to permit of unbiased experimentation or trial, the committee on revision of the United States Pharmacopeia have included in that book a formula for Cataplasma Kaolini or Cataplasm of Kaolin, containing 57.7 per cent. of kaolin, 4.6 per cent. of boric acid and 37.5 per cent. of glycerin scented with thymol methyl salicylate and oil of peppermint.

IT DOES AND IT DOESN'T.


VIN MARIANI NOT A COCAINE PREPARATION
Regarding the Illinois State Law regulating the sale of Cocaine, it is a pleasure again to have verified in official form, that Vin Mariani is not a cocaine preparation and that the law in no way covers or applies to it. This decision recently rendered is based upon analyses made by Chemists of high professional standing, at request of the Illinois authorities, and confirms investigations of the Ohio Pure Food

BEFORE.*

GUARANTEED UNDER THE FOOD AND DRUGS ACT, JUNE 30, 1906; SERIAL NO. 440
VIN MARIANI
[MARIANI WINE]
A COMPOUND OF FRENCH BORDEAUX WINE WITH A SPECIAL PREPARATION OF BLENDED VARIETIES OF ERYTHROXYLON COCA.
SEVENTEEN PER CENT. ALCOHOL by Volume. Each Ounce represents ONE-TENTH OF ONE GRAIN OF COCAINE.
Vin Mariani is prepared and bottled at our New York Laboratory
MARIANI AND COMPANY
PARIS, FRANCE: 41 Boulevard Haussmann
NEW YORK: 52

AFTER.*

The above are reproduced to illustrate the reliability of nostrum advertisements. Vin Mariani does contain cocain and it doesn't contain cocain—"you pays your money and takes your choice."

Evil of Prescribing Original Packages.

Both abroad and in this country the evil of prescribing original packages has reached an extent that should arouse the opposition of physicians and lead them to greater care in regard to such prescriptions. The objections to the practice are well stated by G. A. Büllmann in the *Medizinische Klinik*. He shows how the circular wrapped around the bottle gives both the indications for the use of the remedy and the dose, so that the patient is easily led to self-medication when he thinks he has the same or similar symptoms. Not only does such a patient use the medicine for himself, but he advises his friends also to employ it when they think that they are similarly afflicted. This practice is not only detrimental to the physician, but it is often injurious to the patient, who, not knowing the need of care, may easily take a remedy in excessive doses. He notes that a large number of remedies have found their way into use by the public in this way. To be sure the manufacturer, in his regard for the medical man, adds to his instructions the clause that the medicine should be taken under the direction of a physician; but why a patient should consult a physician, when the manufacturer has already had the medicine tested by eminent medical men, and so states in the literature that the patient gets, is not explained. The advantages which are urged as reasons for the ordering of these original packages are, in fact, disadvantages. Under the rules of the Council on Pharmacy and Chemistry governing the admission of articles to the list of New and Non-official Remedies this point is specifically dealt with. Rule 4 is especially designed to prevent this method of making physicians the unpaid agents of proprietary houses.

* Before and after the national Food and Drugs Act went into effect.

Association News

Banquet of Laryngology Section.

The banquet of the Section on Laryngology and Otology will be held at the Hotel Strand, Tuesday evening, June 4. Dr. George L. Richards, 84 North Main Street, Fall River, Mass., wishes to receive, as early as possible, the names of those who will attend the banquet. Those who do not see this notice until too late to notify Dr. Richards at Fall River should notify Dr. James W. Snowball, Atlantic City, chairman of the committee on alumni and section entertainments.

SECTION OFFICERS.

Brief Biographies and Photographs of the New Officers of the Sections.

We take pleasure in presenting in this issue photographs of the officers of the various sections, whose faces have not previously appeared in THE JOURNAL. These men were elected to their present positions at the last session. Brief biographic sketches of the subjects of these illustrations are given below, which we feel will give to them an added interest.

A portrait of Dr. Joseph D. Bryant, President-elect of the Association, also accompanies THE JOURNAL. It is inserted loose for the convenience of those who wish to frame it.

Arthur Howard Wentworth, Boston.

SECRETARY OF SECTION ON DISEASES OF CHILDREN.

A. H. Wentworth, M.D., was born in Boston in 1864. He received both his preliminary and medical education in that city, and in 1891 was graduated by the Harvard Medical School. He was assistant in chemistry and in pathology in the Harvard Medical School for two years each, and for six years he was assistant in pediatrics in the same insituation. Dr. Wentworth is assistant physician to the Children's Hospital and also to the Infants' Hospital in Boston.

Thomas D. Coleman, Augusta, Ga.

CHAIRMAN OF SECTION ON PRACTICE OF MEDICINE.

T. D. Coleman, M.D., was born in Augusta, Jan. 13, 1865. He was graduated by the Richmond Academy, Augusta, and then matriculated at the University of Kentucky, where he received in 1885 the A.B. degree. In 1902 his alma mater conferred on him the master's degree. He took a two years' graduate course in science at Johns Hopkins University and

then entered the Medical Department of the University of the City of New York, where he was graduated in 1890. In 1893 he became professor of physiology and director of the pathologic laboratory in the Medical Department of the University of Georgia, and in 1900 was made professor of medicine. Two years later he was elected to the senior chair of principles and practice in the same institution, which position he still holds.

Meyer L. Heidingsfeld, Cincinnati.

SECRETARY OF SECTION ON CUTANEOUS MEDICINE AND SURGERY.

M. L. Heidingsfeld, M.D., was born Sept. 6, 1871, at Greenfield, Ohio. He received an academic degree and his preliminary education at the University of Michigan, and completed his medical studies at the Medical Department of the University of Cincinnati. He served as house physician in the Cincinnati Hospital in 1895 and 1896, and in 1898 was assistant in the clinic of Max Joseph in Berlin.

Morris I. Schamberg, New York City.

CHAIRMAN OF SECTION ON STOMATOLOGY.

M. I. Schamberg, D.D.S., M.D., was born in Philadelphia in 1875. He was graduated by the University of Pennsylvania in dentistry in 1896, and in medicine by the Medico-Chirurgical College, Philadelphia, in 1898. He was acting assistant surgeon in the United States Army during the Spanish War and did service in Porto Rico in 1898-1899. For about five years he was assistant to the professor of oral surgery at the University of Pennsylvania, and he has been assistant in the surgical clinic of the Philadelphia Polyclinic Hospital and Post-Graduate School of Medicine. He is now oral surgeon to the Medico-Chirurgical Hospital and to the New York Nose, Throat and Lung Hospital, and is in charge of the Roentgen-ray work in that institution. He is also professor of oral surgery in the Dental Department of the Medico-Chirurgical College.

J. Wesley Bovée, Washington, D. C.

CHAIRMAN OF SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

J. Wesley Bovée, M.D., was born at Clayton, N. Y., Dec. 31, 1861. His preliminary education was obtained in the public and high schools of his native county, and he was graduated in medicine by the Medical Department of Columbian University in 1885. He was visiting physician to the Washington Asylum from 1889 to 1897, and since 1891 has been connected with Providence Hospital and Columbia Hospital for Women, to both of which institutions he is still gynecologist. He has been on the consulting staff of St. Ann's Infant Asylum for the Washington University Hospital since its organization about eight years ago. He is attending gynecologist to St. Elizabeth's Hospital for the Insane and is professor of gynecology in George Washington University. In 1904 he was elected delegate to the American Medical Association by the Section on Obstetrics and Diseases of Women.

Morton Prince, Boston.

CHAIRMAN OF SECTION ON NERVOUS AND MENTAL DISEASES.

Morton Prince, M.D., was born in Boston, Dec. 21, 1854. He was educated in the Boston Latin School, and in 1875 was graduated by Harvard College with the degree of A.B.; in 1879 he was graduated by the Harvard Medical School. Since 1885 he has been physician for diseases of the nervous system to the Boston City Hospital. Formerly instructor in nervous diseases in Harvard Medical School, he is now professor of neurology in Tufts College Medical School. He is editor of the *Journal of Abnormal Psychology* and author of "The Nature of Mind and Human Automatism," "The Dissociation of a Personality" and numerous papers on general medical, neurologic and psychologic subjects.

Prince A. Morrow, New York City.

CHAIRMAN OF SECTION ON HYGIENE AND SANITARY SCIENCE.

Prince A. Morrow, M.D., was born in Christian County, Kentucky, Dec. 19, 1846. He received from Princeton College, Kentucky, the degree of A.B., and later from the University of New York the degree of A.M. He was graduated in medicine by the Medical Department of the University of New York in 1873. He is emeritus professor of genito-urinary diseases in the University and Bellevue Hospital Medical College and is consulting dermatologist to the City Hospital and to St. Vincent's Hospital. Dr. Morrow was editor of the *Journal of Cutaneous and Venereal Diseases* for ten years, and is the author of "Venereal Memoranda," "Drug Eruptions," "Atlas of Skin and Venereal Diseases," a "System of Genito-Urinary Diseases, Syphilology and Dermatology," "Social Disease and Marriage," and other works of like character.

W. B. Cannon, Boston.

SECRETARY OF SECTION ON PATHOLOGY AND PHYSIOLOGY.

W. B. Cannon, M.D., was born at Prairie du Chien, Wis., Oct. 19, 1871. He was educated in the public schools of Milwaukee and St. Paul, in 1892 entering Harvard College, by which he was graduated in 1896. In 1900 he completed his medical course at the Harvard Medical School. He was for some years instructor in physiology in Harvard University, and in 1906 he was elected to the George Higginson professorship of physiology in the same institution. He has made several contributions to physiologic science, mainly along the line of the mechanical factors in digestion.

H. C. Wood, Jr., Philadelphia.

CHAIRMAN OF SECTION ON PHARMACOLOGY AND THERAPEUTICS.

H. C. Wood, Jr., M.D., was born in Philadelphia in 1874. He was graduated by the University of Pennsylvania in 1896. He is demonstrator of pharmaco-dynamics in the University of Pennsylvania and assistant visiting physician to the Philadelphia General Hospital. He is co-author of "Therapeutics; Its Principles and Practice" (editions 11, 12 and 13), and subeditor of the "United States Dispensatory" (edition 19), and author of a number of articles on pharmacologic and therapeutic topics.

G. C. Savage, Nashville, Tenn.

CHAIRMAN OF SECTION ON OPHTHALMOLOGY.

G. C. Savage, M.D., was born Jan. 15, 1854, in Alcorn County, Mississippi. He received his preliminary education in the public schools and at Henderson Masonic Institute, and was graduated in medicine by the Jefferson Medical College in 1878. In 1886 he was elected to the chair of diseases of the eye, ear, nose and throat in the medical department of Vanderbilt University, which position he still retains. Dr. Savage was largely instrumental in organizing the Association of Southern Medical Colleges. He was secretary of the Section on Ophthalmology in 1889, and was elected first vice-president of the American Medical Association in 1903. The *Ophthalmic Record* was founded by him in 1891, with the editorial department of which journal he is still connected. He is the author of "New Truths in Ophthalmology," "Ophthalmic Myology" and "Ophthalmic Neuro-Myology," as well as of numerous papers on similar subjects.

Arthur Dean Bevan, Chicago.

CHAIRMAN OF SECTION ON SURGERY AND ANATOMY.

Arthur Dean Bevan, M.D., was born in Chicago in 1861. He prepared for medical study at Yale Scientific School and was graduated by Rush Medical College in 1883. From this date he served in the United States Marine-Hospital Service until 1888, at which time he was called to the chair of anatomy at Rush Medical College. In 1902 he succeeded the late Christian Fenger as a full professor of surgery, in 1906 becoming joint head of the surgery department with Prof. J. B. Murphy. Dr. Bevan is one of the joint authors of a text-book on "Anatomy by American Authors" and also of Keen's "System of Surgery" and of the "American System of Surgery" by Bryant and Buck. He has written a number of monographs on general surgical and medical subjects. Dr. Bevan is chairman of the Council on Medical Education.

S. MacCuen Smith, Philadelphia.

CHAIRMAN OF SECTION ON LARYNGOLOGY AND OTOLOGY.

S. MacCuen Smith, M.D., was born in Hollidaysburg, Pa., March 6, 1863. He received his preliminary education in Hollidaysburg Academy, and was graduated in 1884 from Jefferson Medical College, Philadelphia. Immediately following his

graduation he served as resident physician in the Germantown Hospital for eighteen months. In 1886 a department for ear, nose and throat work was established at the Germantown Hospital, to which he was elected surgeon-in-charge. The same year he was also elected clinical chief of the department of otology at the Jefferson Medical College, which position he held until 1893, when he was elected clinical lecturer on otology in the same institution. In 1894 he was elected clinical professor of otology and given a place in the faculty. In 1904 Dr. Smith was elected professor of otology, which position he holds at the present time, and in the same year he became aurist to the Jewish Hospital of Philadelphia.

Medico-Chirurgical Clinics.

The Medico-Chirurgical College of Philadelphia has arranged the following series of clinics for visiting physicians before and after the meeting of the American Medical Association at Atlantic City:

SATURDAY, JUNE 1.

11:00 to 12:00 Surgical Clinic, Prof. William L. Rodman.
12:00 to 1:00 Medical Clinic, Prof. James M. Anders.
1:00 to 2:00 Surgical Clinic, Prof. Ernest Laplace.

MONDAY, JUNE 3.

11:00 to 12:00 Orthopedic Clinic, Prof. James P. Mann.
12:00 to 1:00 Medical Clinic, Prof. John V. Shoemaker.
1:00 to 2:00 Ophthalmology Clinic, Prof. L. Webster Fox.

SATURDAY, JUNE 8.

9:30 to 10:30 Oral Surgery Clinic, Prof. M. I. Schamberg.
11:00 to 12:00 Surgical Clinic, Prof. William L. Rodman.
12:00 to 1:00 Surgical Clinic, Prof. Ernest Laplace.
1:00 to 2:00 Medical Clinic, Prof. Judson Daland.

MONDAY, JUNE 10.

11:00 to 12:00 Genito-Urinary Diseases Clinic, Prof. H. M. Christian.
12:00 to 1:00 Diseases of Skin Clinic, Prof. John V. Shoemaker.
1:00 to 2:00 Ophthalmology Clinic, Prof. L. Webster Fox.

Temple College Clinics.

The Temple College will give clinics in Philadelphia June 3, 7, 8 and 10, in the Samaritan Hospital, Broad and Ontario Streets. A schedule of clinics may be obtained at the college, Broad and Berks Streets, or at the hospital, or by addressing the dean, Dr. I. N. Snively.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending May 25, 1907.

Taylor, Blair D., deputy surgeon general, left Cuba en route to the United States on thirty days' leave of absence.

Purviance, William E., surgeon, will proceed to Fort Douglas, Utah, for station, instead of Fort Logan, Colo.

Fife, James D., asst.-surgeon, granted thirty days' leave of absence.

Davis, William R., asst.-surgeon, ordered to report in person on July 22, 1907, to Major Thomas U. Raymond, surgeon, president examining board, Manila, P. I., for examination to determine his fitness for advancement.

Hansell, H. S., asst.-surgeon, relieved from further duty in Cuba, and ordered to Fort Snelling, Minn., for duty.

Webb, Walter D., asst.-surgeon, relieved from duty at Fort Snelling, Minn., and ordered to the Army General Hospital, Washington Barracks, D. C., for duty.

Russell, Frederick F., asst.-surgeon, is detailed as a member of the board of medical officers appointed by Paragraph 22, S. O. 38, War Dept., to determine the results of preliminary examinations of applicants and for final examination of candidates for admission to the Medical Corps of the Army.

Richard, Charles, Straub, Paul F., surgeons, detailed to represent the Medical Department of the Army at the 58th annual meeting of the American Medical Association to be held at Atlantic City, N. J., June 4 to 7, 1907.

Porter, Elias H., contract surgeon, granted fifteen days' leave about May 30.

Springwater, Samuel A., contract surgeon, ordered from Chicago, to Fort Morgan, Ala., for duty.

Enders, William J., contract surgeon, relieved from duty at Fort Morgan, Ala., and ordered to Fort Snelling, Minn., for duty.

Wall, Francis M., contract surgeon, granted an extension of one month to his sick leave of absence.

Van Kirk, Harry H., contract surgeon, granted leave of absence for twenty days.

Richardson, William H., contract surgeon, granted leave of absence for one month, about May 25.

McPheeters, Samuel B., contract surgeon, ordered from Fort Leavenworth, Kans., to Fort Mackenzie, Wyo., for temporary duty.

Trotter-Tyler, George, contract surgeon, ordered from Philadelphia, to Fort Jay, N. Y., for temporary duty.

Delacroix, Arthur C., contract surgeon, ordered from New York, N. Y., to San Francisco, Cal., for duty in California.

McLeod, Harlow C., contract surgeon, ordered from Chicago to San Francisco, and thence to Manila, P. I., for Philippine service.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for week ending May 25, 1907.

Taylor, J. S., P. A. surgeon, ordered to Naval Hospital, New York.

Short, W. H., asst.-surgeon, ordered to the Naval Hospital, New York.

Chapman, R. B., asst.-surgeon, resignation accepted to effect July 1, 1907.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending May 22, 1907:

Geddings, H. D., asst.-surgeon general, directed to proceed to Ellis Island, New York, for special temporary duty; on completion of which to rejoin his station, in Washington, D. C.

Kerr, J. W., asst.-surgeon-general, designated to represent the service at the meeting of the American Medical Association, and to attend meetings of the Section on Hygiene and Sanitary Science, at Atlantic City, N. J., June 4-7, 1907.

Woodward, R. M., surgeon, detailed to represent the service at the meeting of the American Medical Association, and the meeting of the House of Delegates of said Association at Atlantic City, N. J., June 3-7, 1907.

Banks, C. E., surgeon, granted extension leave of absence for one month from May 20, 1907.

Rosenau, M. J., P. A. surgeon, directed to proceed to New York for special temporary duty, on completion of which to rejoin his station at Washington, D. C.

Rosenau, M. J., P. A. surgeon, reassigned to duty as director of the Hygienic Laboratory, Washington, D. C., effective April 27, 1907.

White, M. J., P. A. surgeon, relieved from duty in Hong Kong, China, and directed to proceed to Seattle, Wash., assuming charge of the service at that port.

Corput, G. M., P. A. surgeon, granted leave of absence for seven days from May 25, 1907.

Ramus, C., P. A. surgeon, granted leave of absence for 5 days from May 6, 1907, under Paragraph 191 of Service Regulations.

Trotter, F. E., P. A. surgeon, granted extension leave of absence for 10 days from May 17, 1907.

Lloyd, B. J., P. A. surgeon, granted leave of absence for 4 days from April 15, 1907, on account of sickness.

Bahrenburg, L. P. H., P. A. surgeon, relieved from duty at Delaware Breakwater Quarantine Station, and directed to proceed to Ellis Island, N. Y., reporting to the Chief Medical Officer for duty.

Creel, R. H., asst.-surgeon, directed to report to P. A. Surgeon V. G. Heiser, chairman of a board of examiners, at Manila, P. I., July 15, 1907, for examination.

Ebersole, R. E., asst.-surgeon, directed to report to P. A. Surgeon V. G. Heiser, chairman of a board of examiners, at Manila, P. I., July 15, 1907, for examination.

Trask, J. W., asst.-surgeon, granted leave of absence for 1 month from May 30, 1907.

Salmon, T. W., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Boston, reporting to the medical officer in command for duty and assignment to quarters.

Boyd, Frank, acting asst.-surgeon, granted leave of absence for 9 days from June 2, 1907.

Hunter, W. R., acting asst.-surgeon, granted leave of absence for 1 day, May 21, 1907.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for 1 day, May 16, 1907, under Paragraph 210 of the Service Regulations.

Kennard, K. S., acting asst.-surgeon, granted leave of absence for 1 day, May 7, 1907, on account of sickness.

Safford, M. V., acting asst.-surgeon, directed to proceed to Westboro, Mass., for special temporary duty, on completion of which to rejoin station at Boston.

Wilson, J. C., acting asst.-surgeon, granted leave of absence for 1 day, May 9, 1907, on account of sickness.

Allen, G. C., pharmacist, granted leave of absence for 20 days from May 27, 1907.

APPOINTMENT.

Dr. Charles W. Allen appointed acting asst. surgeon, May 15, 1907.

BOARDS CONVENED.

A board of medical officers to meet at Stapleton, N. Y., for the medical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon P. H. Bailhache, chairman; P. A. Surgeon H. W. Wickes, recorder.

A Board of Medical Officers to meet in San Francisco, for the medical examination of an officer of the Revenue-Cutter Service. Detail for the Board; Surgeon H. W. Austin, chairman; P. A. Surgeon J. D. Long, recorder.

A Board of Medical Officers, to meet in Manila, P. I., July 15, 1907, for the purpose of examining Asst.-Surgeons Creel and Ebersole to determine their fitness for promotion to the grade of P. A. surgeon. Detail for the board: P. A. Surgeon V. G. Heiser, chairman; P. A. Surgeon F. B. McClintic and P. A. Surgeon C. W. Vogel, recorders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General Public Health and Marine-Hospital Service, during the week ended May 24, 1907.

SMALLPOX—UNITED STATES.

California: San Francisco, April 27-May 11, 5 cases.
Florida: Hillsboro County, Tampa, May 4-11, 2 cases.
Georgia: Augusta, May 7-14, 2 cases.
Illinois: Danville, May 7-14, 3 cases.

Indiana: Indianapolis, May 5-12, 9 cases; La Fayette, May 6-13, 3 cases.
Kansas: Kansas City, May 4-11, 1 case; Topeka, 2 cases.
Kentucky: Louisville, May 9-16, 3 cases.
Louisiana: New Orleans, May 4-11, 4 cases.
Massachusetts: Chelsea, May 4-11, 2 cases; Lawrence, 3 cases.
Michigan: Detroit, May 11-18, 6 cases; Grand Rapids, May 4-11, 1 case; Highland, March 1-May 14, 2 cases.
Minnesota: 45 Counties, March 11-April 30, 323 cases, 1 death.
Missouri: St. Joseph, May 4-11, 18 cases.
New York: New York, May 4-11, 1 case, 1 death.
North Carolina: Charlotte, May 11-18, 1 case; Greensboro, May 4-11, 6 cases.
Ohio: Cincinnati, May 10-17, 2 cases; Columbus, April 1-30, 11 cases; Hamilton, May 9-16, 4 cases.
Tennessee: Nashville, May 11-18, 2 cases.
Virginia: Richmond, May 4-11, 1 case.
Wisconsin: Milwaukee, May 4-11, 1 case.
Washington: Spokane, May 4-11, 18 cases (2 imported); Tacoma, May 4-11, 3 cases.

SMALLPOX—FOREIGN.

Africa: Lorenzo Marquez, March 1-31, 5 cases.
Brazil: Pernambuco, March 1-15, 72 deaths; Rio de Janeiro, April 14-28, 3 cases, 3 deaths.
Canada: Sherbrooks, May 11-18, 6 deaths.
Chile: Coquimbo, April 20, 1 case; Iquique, present.
China: Hankau, April 6-13, 1 case; Hongkong, March 31-April 6, 24 cases, 18 deaths.
Columbia: Barranquilla, April 20-27, 1 death.
Ecuador: Guayaquil, April 20-27, 2 deaths.
Egypt: Cairo, April 15-22, 4 cases, 1 death.
Germany: Bremen, April 20-27, 1 case.
Great Britain: London, April 20-27, 1 case; Southampton, 1 case.
India: Bombay, April 16-23, 3 deaths; Calcutta, April 6-13, 94 deaths; Madras, April 13-19, 2 deaths; Rangoon, April 6-13, 1 death.
Italy: General, April 25-May 2, 13 cases; Naples, April 26-May 4, 2 cases; Rome, Feb. 23-March 2, 1 death.
Java: Batavia, March 30-April 13, 5 cases.
Madeira: Funchal, April 21-May 5, 291 cases, 96 deaths.
Mexico: Aguas Calientes, April 20-May 4, 37 deaths; Mexico City, April 6-20, 26 deaths.
Portugal: Lisbon, April 20-May 4, 18 cases.
Russia: Moscow, April 13-20, 4 cases, 1 death; Riga, April 20-27, 5 cases;
Siberia: Vladivostok, March 14-21, 1 case; San Feliu de Guixols, April 28-May 4; 1 death.
Turkey: Bagdad, March 23-April 6, present; Bassorah, April 13-20, 2 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 14-28, 4 deaths.
Cuba: Habana, May 16, 1 case (brought from Union de Reyes).
Ecuador: Guayaquil, April 13, 6 deaths; Guatemala: Zacapa, May 16, 1 case; Venezuela: La Cudira, Feb. 16-March 30, present.

CHOLERA.

India: Bombay, April 16-23, 2 deaths; Calcutta, April 6-13, 61 deaths; Madras, April 13-19, 1 death; Rangoon, April 13, 5 deaths.
Straits Settlements: Singapore, March 30-April 6, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 15-21, 5 cases, 5 deaths.

PLAGUE—FOREIGN.

Brazil: Pernambuco, March 1-15, 2 deaths; Rio de Janeiro, April 14-28, 4 cases, 1 death.
Chile: Antofagasta, April 20, 16 cases, 6 deaths; Santiago, present; Taltal, present.
Egypt: Assiout Province, April 22-30, 25 cases, 17 deaths; Beni Souef Province, April 23-May 2, 12 cases, 5 deaths; Girgeh Province, April 22-May 1, 11 cases, 10 deaths; Keneh Province, April 20-May 1, 11 cases, 17 deaths; Minieh Province, April 21-May 1, 5 cases, 2 deaths.
India: General, April 6-13, 87,561, cases, 75,472 deaths; Bombay, April 16-23, 376 deaths; Calcutta, April 6-13, 383 deaths; Rangoon, April 6-13, 103 deaths.
Japan: Formosa, April 6-13, 95 cases, 78 deaths.
Mauritius: March 7, 3 cases, 3 deaths.
Peru: Chepen, April 17, 4 cases, 4 deaths; Chiclayo, 1 case; Lima, 6 cases, 3 deaths; Mollendo, 1 case; Paita, 9 cases, 5 deaths; Trujillo, 4 cases, 5 deaths.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

MEDICAL PAPERS IN SOUTH AMERICA.

———, MAY 12, 1907.

To the Editor:—What medical publication has the largest circulation in Brazil, Argentine, and other South American countries.

T.

ANSWER.—The representative medical journal in Brazil is the *Brazil Medico*, Rio de Janeiro, Brazil, 100 rua do Rosario: weekly, $11 a year. In Argentina the *Semana Medica* is the chief one, Buenos Aires, Callao 737; weekly, $5 a year. The latter is printed in Spanish and the *Brazil Medico* in Portuguese.

GRADUATE WORK IN VIENNA.

PITTSBURG, PA., May 17, 1907.

To the Editor:—Will you give me some details about graduate work in Vienna, especially as regards work in neurology.

WILLIAM J. MCADAMS.

ANSWER.—The present term at the University of Vienna began April 15 and continues until July 15. Among the lectures to be delivered in the hospitals and clinics during this term the following are open to students and graduates alike at a cost not exceeding $4 for the term: Internal medicine, two hours daily, by Professors Neusser, von Noorden and von Schrötter; surgery by von Eiselsberg and Hochenegg; dermatology and venereal diseases by Finger and Riehl; gynecology and obstetrics by Schauta and Chrobak; pediatrics by Escherich. On the faculty of the University as professors are Wagner on psychiatry and neuropathology, Obersteiner on the physiology and pathology of the central nervous system and Johann Fritsch on psychiatry. Among the privat docents are Holländer, Ritter, Hirschl, Sölder and Bischoff, all well-known men in nervous and mental diseases. After the summer term is over a series of "vacation courses" will be given during the months of August and September. No clinical lectures will be held and the entire material is at the disposal of the assistants. The fees for special courses vary according to the subject and the duration, but seldom exceed $20. The summer courses cost about $15, last twenty hours, and are really graduate lectures. During the winter term several graduate classes are conducted in English at the clinics of the General Hospital. There also is another group of classes, not, in English, however, offering certain advantages which is held by the *Aertzekammer* (medical council). The duration of the class is either six or twelve hours, held either weekly or semi-weekly, from 6 to 8 p. m. They cost about $4 for men holding foreign diplomas. The Vienna General Hospital—the *Allgemeine Krankenhause*—has over 2,000 beds. The children's department—St. Anna's Kinderspital—is situated but a short distance from it and the Polyclinic with about 200 beds is but one block from the General Hospital. See "Vienna from the Medical Student's Point of View," in THE JOURNAL for Oct. 27, 1906, p. 1391.

TREATMENT OF CEREBROSPINAL MENINGITIS.

SUNCOOK, N. H., May 20, 1907.

To the Editor:—What is the latest treatment of cerebrospinal meningitis? Is there anything in the serum treatment?

A. M. LAVALLEE, M.D.

ANSWER.—The treatment of cerebrospinal meningitis does not differ materially from that described in standard treatises on the practice of medicine. The use of diphtheria antitoxin introduced some years ago has not fulfilled the hopes of its discoverer. A serum treatment has been tried on monkeys by Flexner (THE JOURNAL, Aug. 25, 1906, p. 560), but it is still in the experimental stage.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, CONTRACT PRACTICE, INSURANCE FEES, MEDICAL LEGISLATION, ETC.

Results of Organization Shown in the Work of the Councils on Pharmacy and Education.

In the May *Lancet-Clinic*, of Cincinnati, appears an editorial on the value of organization in medicine which very forcibly summarizes the advantages gained and the results accomplished through effective organization. The editor says:

The days of isolation in small communities have passed. Independence and intense individualism were possible in the days of the stage coach, but with the annihilation of time and space, interdependence has been established. Organization is the order of the day. Physicians of the United States are being organized and welded together in the American Medical Association. Every county in every state has or should have a medical society, and every physician in the county should be enrolled as an active member. These county societies are the nuclei on which the entire structure is based. As a result a thorough organization, an authoritative body, has been created (the House of Delegates of the American Medical Association) to which can be referred all subjects of material scientific interest. Three standing committees are doing splendid work in the interim between the annual sessions. These are the Judicial Council, the Council on Medical Education and the Council on Pharmacy and Chemistry.

The editor then considers the work of each of these committees and concludes that the amount of good accomplished by the Council on Medical Education is best attested by the discussion and, in some quarters, the opposition which it has created, and that the work of the Council on Pharmacy and Chemistry has been of incalculable benefit to the public and to the profession. He says:

The disclosure that the medical profession is in a great measure responsible for the existence of nostrums has been disconcerting, but it must prove salutary. The labors of the Council have been iconoclastic. We are coming to a greater simplicity in therapy. This reaction is in large measure due to the labors of the Council and the end is not yet.

The editor rightly concludes that one of the most encouraging signs of the times so far as the progress of medicine is concerned is that men can be found who are giving largely of their time and means for the furtherance of these reforms. He says:

That order is being created out of chaos is beyond dispute. How the accomplished results would be possible without the complete reorganization of to-day is beyond comprehension.

Successful Conference of Secretaries.

In the May *Ohio State Medical Journal* is an extended report of the meeting of the secretaries of county and district societies at Columbus, April 25. As this was the first meeting of the sort to be held, it has naturally attracted much attention. There seems to be no doubt as to the value of the plan. The editor says:

It is needless to state that this meeting was a grand success. The most remarkable thing was the enthusiasm which was manifested everywhere and all the time. A more enthusiastic meeting of physicians never took place in Ohio. That it will result in much good to the profession and, through its improvement and advancement, will be of great advantage to the people of the state, admits of no argument.

Discuss Medical Frauds.

Mr. Samuel Hopkins Adams was entertained recently by the Santa Barbara (Cal.) Medical Society. Dr. W. T. Barry, secretary, writes: "We had a most pleasant and instructive evening. Among others were present members of the legal profession, including one district judge. Following Mr. Adams' interesting address we had an open discussion of medical frauds and the like. I am sure that the meeting will be productive of much good."

Magnetic Healers Want a Separate Board.

The Peoria *Transcript* reports that the magnetic healers of Illinois met and organized on May 10, at Peoria. About 75 persons were in attendance. The object of the meeting, it is stated, was to secure an enactment of a law by the state legislature that will permit the practice of magnetic healing. No doubt, the next session of the legislature will see a bill introduced establishing a board of examiners for magnetic healers. It is truly a poor fad now-a-days which can not ask for a separate board of examiners. Of making many Boards there is no end.

Contract Practice in Rhode Island.

Recent reports from Westerly, R. I., indicate that the physicians are adhering to the positive stand taken regarding contract and lodge practice. The contracts of the resident physicians expired April 1. The local lodges then made a united effort to secure an outside man and arranged with a physician who recently located in the town to do their medical work under contract. The outcome of the situation will be watched with much interest.

The Seattle Intelligencer and Oren Oneal.

An advertisement of Oren Oneal, the quack exponent of the "dissolvent method," appeared recently in the Seattle *Post Intelligencer*. On seeing it Dr. H. W. Howard, of Prosser, Wash., wrote a letter of gentle protest to the business manager of that paper. The reply quoted below indicates the evident desire on the part of the better class of newspapers to purge their pages of the grosser forms of medical frauds. It is an encouraging sign of the times.

SEATTLE, WASH., April 17, 1907.

Dr. H. W. Howard, Prosser, Wash.

Dear Sir:—We acknowledge the receipt of your favor of April 15 calling our attention to the advertising of Dr. Oren Oneal. We thank you for bringing this matter to our attention. I have issued instructions that there be no more insertions of this advertising.

Yours truly, POST INTELLIGENCER CO.,
S. P. Weston, Business Manager.

A little effort often accomplishes much.

Book Notices

TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Northwestern University Medical School, Chicago. Illustrated. Cloth. Pp. 1328. Price, $5.50 net. Philadelphia and New York: Lea Bros. & Co., 1907.

A text-book of medicine requires great merit to take an equal place with the excellent ones we have already and a newcomer must expect to be closely inspected. It may be said at once that Dr. Edwards has succeeded in keeping up the high standard which has been set by the best American works. The objects which he has kept before him are to associate the causative pathology with the clinical feature, to give reasons for facts, not to magnify exceptions, and to avoid typical pictures and dogmatic generalizations. In doing this it must not be inferred that he has not given general descriptions, although more attention is placed on the assembling of the various parts of the whole picture. The work contains an enormous amount of detail, and many of the sections might be put in a work on physical diagnosis. This, however, may be an advantage to the book before us. As an illustration of the detail, take the description of the physical signs in pericardial effusion, in which every possible point seems to be included. There is an enormous amount of detailed information given in this way and the whole literature has evidently been carefully studied. These features should make the work especially useful to teachers. There are many tables of differential diagnosis as to the value of which, however, there may be a difference of opinion. Do they not savor a little of the dogmatic generalizations which are condemned on the same page?

The general arrangement and discussion of each disease is well done, but it is rather difficult to see the advantage of considering epidemic cerebrospinal meningitis among the diseases of the nervous system. There are many historical notes which add interest and are valuable, even though they are necessarily brief. Thus in a great many places the name of the individual who described a condition or first used a treatment, such as the use of the salicylates in rheumatic fever, is given with the date. It is a pleasure to see the complete account which is given of syphilis, a disease above all others on which the student and general practitioner should be well informed. There are good sections on conditions such as hematemesis, in which the various causes are considered and the general knowledge brought together. The section on the diseases of the nervous system must be a source of much worry in the preparation of a text-book, but the author has given a clear discussion of this intricate group of diseases. The sections on treatment are very satisfactory. They are complete and show a common-sense attitude toward therapy.

There are some points which require criticism and which, in our opinion, would be the better for correction. Thus under typhoid fever is the statement that the urine is febrile and that water is retained in fever. Does this mean that the urine has a high temperature? Is there any evidence that water is retained in fever? It is usually thought that the amount of urine voided in typhoid fever depends on the quantity taken. Under one of the pernicious forms of malarial fever, it is stated that the course is usually benign, but the same sentence gives the mortality as from 10 to 25 per cent.! Is it not a mistake to use the term "gonorrheal rheumatism"? Is not "gonorrheal arthritis" better? The first sentence in the section on mitral stenosis suggests that mitral insufficiency is almost always accompanied by mitral stenosis, whereas the meaning intended is that mitral insufficiency is usually present when mitral stenosis exists. A rather pessimistic view is taken of the frequency with which bronchiectasis is recognized—a view which we do not consider justified. The statement that "chronic rheumatism" follows acute rheumatism seems open to question. Some of the illustrations might be improved, as for example, the plate showing tubercle bacilli, opposite page 320.

These are comparatively minor points, and when the general work is so good it may seem captious to criticise. There

NEW OFFICERS OF SECTIONS (Elected 1906).

NEW OFFICERS OF SECTIONS (Elected 1906.)

will undoubtedly be future editions in which such points can be changed. Dr. Edwards is to be congratulated on having given us another excellent work on medicine. The publishers have done their work well and the page is clear and easily read. The book opens well at any page, which is a comfort.

METABOLISM AND PRACTICAL MEDICINE. By Carl von Noorden, Professor of the First University Medical Clinic, Vienna. Anglo-American Issue Under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol. Vol. I.—The Physiology of Metabolism, by Adolf Magnus-Levy, Berlin. Cloth. Pp. 450. Price, $4.00 net. Vol. II.—The Pathology of Metabolism, by Carl von Noorden, Fr. Kraus, Ad. Schmidt, W. Weintraud, M. Matthes and H. Strauss. Cloth. Pp. 525. Price, $6.00 net. Chicago: W. T. Keener & Co., 1907.

First issued as a text-book on metabolism, this work has grown to almost cyclopedic proportions, being now issued in three volumes, the first two of which are before us. It has not, however, outgrown the importance of the subject, of which it is to-day probably the best exponent. The present edition represents the labors of a number of authors. It is divided into two parts, one on the physiology of metabolism by Magnus-Levy and the other on the pathology of metabolism by von Noorden, Kraus, Schmidt, Weintraud, Matthes and Strauss. The English editor is Prof. I. Walker Hall, who has incorporated such new material as has been necessary to bring the subject up to date. Acting on the principle which governed the construction of the original work, there are presented a compilation of facts and a critical discussion of hypotheses, rather than a mere enunciation of theories. The new material is introduced into the text without brackets and any question of sponsorship must be settled by reference to the German copy. The bibliography includes a considerable number of English and American publications and von Noorden notes with pleasure the fact that the last twenty years have shown a remarkable increase of interest among English speaking physicians in the problems of metabolism.

To undertake a critical examination of the work in detail is impossible within the limits of a book review. The value of the work to the investigator can not be too highly estimated, and yet at the same time it is of practical value to the physician. Some old errors are definitely refuted as, for instance, the idea that lack of bile favors intestinal putrefaction. The account of the action of iron in the synthesis of hemoglobin is favorable to the inorganic salts of that metal indicating that it is fully equal to organic iron in hemoglobin-forming power, but decidedly inferior to the iron of the nucleo-proteids found in the food. The old method of estimating intestinal putrefaction by comparing the ethereal sulphates with the total sulphates is shown to be unreliable as the total sulphates are determined by the amount of albumin consumed and have nothing to do with the amount of putrefaction. We might cite many other instances in which the facts recorded have a definite bearing on the practice of the physician, but only a careful reading of the work can enable one to appreciate it at its full merits.

The translation, though the work of different hands, has been so well done that one fails to notice differences of style, although in places traces of the German origin of the work appear. One feature is open to just criticism. We refer to the introduction of quotations of various authorities without translation. It is bad enough when a literary author interspersses his language with foreign words and phrases, but a scientific treatise intended for English readers should at least give the translation of the quoted sentences.

The book is printed on exceptionally good paper, which greatly promotes the ease of reading.

MODERN MEDICINE, ITS THEORY AND PRACTICE, in Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England, assisted by Thomas McCrae, M.D., Assistant Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. Volume I.—Evolution of Internal Medicine—Predisposition and Immunity, etc. Illustrated. Cloth. Pp. 937. Price, $6.00 net. Philadelphia: Lea Bros. & Co., 1907.

There are many difficulties in the way of a really critical and searching review of a work of the scope of Modern Medicine. Thus, to cite only one difficulty, the number of different topics covered by Volume I is so large that it absolutely precludes the possibility of any one person being possessed of so diversified knowledge as to be entitled to express authoritative judgment on the manner of their presentation. The reviewer consequently must content himself with the attempt to point out the essential general features of the work in so far as they are disclosed by this volume, which is the first of seven. In the words of the publisher's note, it aims to place the present world knowledge in medicine at the command of all. Concerning the fitness of the editor of this system for his important task, there can be no question. It is, indeed, fortunate that one so-pre-eminently qualified from all points of view has been secured for the editorship. That he has succeeded in enlisting the cooperation of recognized leaders in the investigative and practical sides of medicine is evident from the general list of contributors, and this fact is well illustrated in the following summary in outline of the contents of the first volume:

Dr. Osler writes the introduction. Dr. Adami contributes the chapter on inheritance; Dr. Alfred Gordjon those on diseases caused by light, Roentgen-ray, electricity, air, heat and cold; and Dr. Edsall those on diseases caused by chemical agents. Dr. Alexander Lambert writes on alcohol, opium, morphin and cocain as causes of diseases; Dr. Novy on food poisons; Dr. Noguchi on snake venoms; Dr. A. E. Taylor on autointoxications; Dr. J. H. Wright on diseases of vegetable parasites other than bacteria; Calkins, Howard, Craig, Stephens, Bruce and Strong furnish the section on diseases caused by protozoa. Stiles writes the chapter on animal parasites; Chittenden and Mendel that on metabolism; Futcher presents diabetes and gout; Anders, obesity; Still, rickets, and Robert Hutchison, scurvy.

We see at once that practically every chapter in this volume is the production of a recognized leader in the study and investigation of the special field occupied by him. As particular illustrations of this fact, as well as of the attention given the newer developments in medical sciences, it may be permitted to mention first the excellent discussion by Adami of the newer views of heredity; the elaborate sections by Taylor, and by Chittenden and Mendel on autointoxication and on metabolism; and the chapter by Calkins on protozoa in general, by Howard on mosquitoes, by Craig on malaria, by Stephens on black-water fever, by Bruce on trypanosomiasis, and by Strong on amebic dysentery. The presentation by Stiles of the diseases caused by animal parasites gives a fine summary of our present knowledge and in full accord with accepted zoologic teaching with respect to the naming and description of the parasites. The editor contributes an introduction covering some twenty pages, in which the evolution of internal medicine is traced by a skilful hand in a most interesting and instructive way. We hope that his arraignment of the present organization of our hospital staffs will bear fruit soon. Volume I of Modern Medicine indicates that it will be an unusually well balanced, carefully planned work of its type, written by especially competent men, and destined to be of great service.

Marriages

ROBERT C. FORSYTH, M.D., to Miss Bettie Glover Way, both of Kirkwood, Mo., May 8.

VERN S. FILDES, M.D., Parkersburg, Ill., to Miss Lucile Smith of West Salem, Ill., May 10.

MURET N. LELAND, M.D., to Miss Josephine Homan, both of Minneapolis, Minn., May 15.

JOHN P. WARD, M.D., Waukesha, Wis., to Miss Mary J. Pothaur, at Milwaukee, May 15.

WILLIAM C. HERMAN, M.D., to Miss Irene Augusta Chapman, both of Cincinnati, April 24.

THOMAS WHITEHEAD MURRELL, M.D., to Miss Gertrude Clark, both of Richmond, Va., May 14.

T. L. BAXTER, M.D., Athens, Ohio, to Miss Lulu M. Bingham, at McConnelsville, Ohio, April 24.

LYMAN ROBERT FORGRAVE, M.D., to Miss Elvira Emille Eckel, both of St. Joseph, Mo., May 15.

DILLON B. HAWORTH, M.D., Dexter, Kan., to Miss Alice May Carter of Kansas City, Mo., May 19.

STANLEY M. BECK, M.D., Dayton, Ohio, to Miss Martha Joanna Kelso of Xenia, Ohio, May 14.

HANSON H. MARSH, M.D., to Miss Mary Morris, both of Seven Mile, Ohio, at Chicago, May 17.

WILLIAM DARRACH, M.D., New York City, to Miss Florence Borden of Fall River, Mass., May 22.

GEORGE SUMNER CRAMPTON, M.D., Philadelphia, to Miss Hazel Smedes of Vicksburg, Miss., May 16.

GILONZA WYATT, M.D., White Sulphur Springs, Va., to Miss Kathleen Dickson, at Richmond, Va., May 14.

WILLIAM WALLACE WILL, M.D., Bertha, Minn., to Miss Mariana Adella Bishop of Mapleton, Minn., May 14.

HARRY W. VICKERS, M.D., Little Falls, N. Y., to Miss Susan J. Sullender, at Saratoga Springs, N. Y., May 16.

Deaths

John Hooker Packard, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1853; later demonstrator on anatomy at that institution; a member of the Medical Society of the State of Pennsylvania and the Philadelphia County Medical Society; acting assistant surgeon, U. S. Army, throughout the Civil War; for many years surgeon to the Philadelphia Episcopal Hospital and later surgeon to the Pennsylvania Hospital and to the Woman's Hospital; secretary of the College of Physicians of Philadelphia from 1862 to 1877; president of the Philadelphia Pathological Society in 1867 and 1868, and of the Philadelphia Obstetrical Society; author of various text-books on surgery; one of the best known men of his profession, died at Atlantic City, N. J., May 20, aged 74.

Henry S. Turrill, M.D. Medical Institution of Yale College, New Haven, Conn., 1864; who served as assistant surgeon of the Seventeenth Connecticut Volunteer Infantry until the close of the Civil War; was commissioned lieutenant and assistant surgeon in the United States Army, June 26, 1875; was promoted to captain and assistant surgeon five years later and to major and surgeon, April 7, 1893; served as lieutenant-colonel and chief surgeon of volunteers from Nov. 7, 1898, until Feb. 28, 1899; was made lieutenant-colonel and deputy surgeon general, U. S. Army, June 28, 1902; promoted to brigadier general March 28, 1906, and was retired the following day, under provision of the age limit, died at his home in New York City, May 24, from heart disease, aged 64.

John W. Trader, M.D. Missouri Medical College, St. Louis, 1860; member and in 1876 president of the Missouri State Medical Association; a member of the Pettis County Medical Society; for several years curator of the State University; one of the commissioners for Missouri to the Paris Exposition of 1867; surgeon of the First Missouri State Cavalry and later brigade surgeon of General Pleasanton's cavalry brigade in the Civil War; chief surgeon of the Missouri, Kansas & Texas Railroad; for several years member of the medical examining board of the State University; one of the most prominent practitioners of Central Missouri, died at his home in Sedalia, May 16, from general debility, aged 70.

Sollace Mitchell, M.D. Bellevue Hospital Medical College, New York City, 1885; of Jacksonville, Fla.; a member of the American Medical Association; formerly president of the Duval County (Fla.) Medical Society; for 12 years chief surgeon of the Jacksonville, Tampa & Key West Railroad, and later consulting surgeon to the Plant System; local surgeon in Jacksonville of the Florida East Coast Railroad for many years; who during the yellow fever epidemic of 1898 had charge of the Sand Hills Hospital, died at Reedville, Maine, May 15, after an illness of nearly a year, from progressive pernicious anemia, aged 48.

John T. McShane, M.D. Medical College of Indiana (University of Indianapolis) 1871; a member of the American Medical Association; formerly assistant port physician to the city and port of Philadelphia and physician to the Bedford Street Mission, Philadelphia, who took supplemental medical courses at Jefferson Medical College in 1885, and at the Medical Department of Tulane University of Louisiana, New Orleans; for several years surgeon for the Chicago, Indianapolis & Louisville and Lake Erie and Western railways, died at his home in Indianapolis, May 20, from Bright's disease, after an illness of eight months, aged 59.

Moses Newton Elrod, M.D. Kentucky School of Medicine, Louisville, 1864; hospital steward of the Twenty-fourth Indiana Volunteer Infantry and acting assistant surgeon, U. S. Army, during the Civil War; postmaster of Orleans, Ind., for six years and some-time assistant state geologist; a member of the Indiana State and Bartholomew County medical societies and first president of the latter body; a member of the Indiana Academy of Science; died at his home in Columbus, May 20, from Bright's disease, after an illness of several months, aged 68.

Josiah P. Lewis, M.D. Medical College of Ohio, Medical Department of the University of Cincinnati, 1878; a member of the American Medical Association; first health officer of Shawnee County, Kan.; city physician of Topeka; a member of the medical staff of Christ Hospital, and professor of anatomy and gynecology in Kansas Medical College; one of the oldest and best known practitioners of Topeka, died at his home May 20, from aneurism of the aorta, after an illness of five months, aged 58.

D. Howell Shields, M.D. Bellevue Hospital Medical College, New York City, 1869; a Confederate veteran; for many years grand medical examiner and supreme medical examiner of the A. O. U. W.; from 1880 to 1884 sergeant-at-arms of the United States Senate; vice-president of the ex-Confederate Association of Missouri and director of the Confederate cemetery at Springfield, died at his home in that city, May 14, aged 60.

David H. Goodwillie, M.D. University of Vermont, College of Medicine, Burlington, 1868; a member of the medical societies of the state of New York and county of Westchester, the New York Academy of Medicine; honorary member of the Canadian Medical Association and delegate to the International Medical Congress in London in 1881; specialist on diseases of the nose and throat, died at his home in Yonkers, N. Y., May 15, aged 73.

John Martyn Harlow, M.D. Jefferson Medical College, Philadelphia, 1844; for many years a member of the school committee of Cavendish, Vt.; a member of the Massachusetts Senate in 1885 and 1886; a member of the governor's council in 1895 and 1896; trustee of the Woburn (Mass.) public library; a member of the Massachusetts and Middlesex County medical societies, died at his home in Woburn, May 13, aged 87.

Augustus C. Bernays, M.D. University of Heidelberg, Germany, 1876; a member of the Western Surgical and Gynecological Association, Mississippi Valley Medical Association, and life member of the German Society for Surgery; chief surgeon of the Lutheran Hospital, St. Louis, and consulting surgeon of the Frisco System, died suddenly at his home in St. Louis, May 22, from cerebral hemorrhage, aged 52.

George G. Duggins, M.D. St. Louis Medical College, 1866; surgeon of Well's Regiment, King's Brigade, Magruder's Division, throughout the Civil War; for many years head of the medical department and division surgeon for the Missouri Pacific Railway at Pueblo; a member of the Colorado State and Pueblo County medical societies, died at the home of his daughter in Denver, May 17, aged 67.

Walter Day Trenwith, M.D. College of Physicians and Surgeons in the City of New York, 1895; a member of the medical societies of the state and county of New York, the West End Medical Society and the Riverside Practitioners' Society; genitourinary surgeon to the outpatient department of the New York Hospital, died at his home in New York City, May 16, from typhoid fever, after a short illness, aged 35.

Heman H. Gillett, M.D. Dartmouth Medical School, Hanover, N. H., 1847; supposed to be the oldest graduate of that institution; for three years member of the Vermont legislature, and surgeon of the Eighth Vermont Volunteer Infantry throughout the Civil War; who had practiced medicine in Post Mills Village, Vt., for 45 years, died at his winter home in Dorchester, Mass., recently.

Charles Simpson, M.D. College of Physicians and Surgeons in the City of New York, 1871; some-time health commissioner and a member of the board of education of Minneapolis, Minn.; a member of the Minnesota State and Hennepin County medical societies; from 1895 to 1898 a member of the State Board of Medical Examiners, died at his home in Minneapolis, May 16, aged 63.

Eugene Wiley, M.D. Jefferson Medical College, Philadelphia, 1869; a member of the Medical Society of the State of Pennsylvania and Philadelphia County Medical Society; one of the founders and secretary of the Red Bank Sanatorium Association, died at his home in Philadelphia, May 17, from cerebral hemorrhage, after an illness of several weeks, aged 61.

Richard **Caldwell Brewster, M.D.** Long Island College Hospital, Brooklyn, N. Y., 1890; prominent as a physician and dentist of Brooklyn; a member of the Medical Society of the State of New York, Kings County Medical Society, and many other medical and dental societies, died at his home in Brooklyn, May 18, after a prolonged illness, aged 62.

Albert **R. Rhea, M.D.** Medical Department of Western Reserve University, Cleveland, 1880; of Long Beach, Cal.; while riding his bicycle near his home, was struck by an electric car, his left knee and thigh were fractured and the left side of his chest was crushed in, and died an hour later, from his injuries, May 10, aged 54.

Edgar **Poppleton, M.D.** Miami Medical College, Cincinnati, 1861; a member of the Oregon State Medical Association and Multnomah County Medical Society; a pioneer resident and practitioner of Oregon; for several years coroner of Multnomah County, died at his home in Portland, May 15, from an internal tumor, aged 74.

William **T. Leachman, M.D.** University of Louisville, Medical Department, 1867; one of the oldest practitioners of Louisville, Ky.; a member of the faculty of the University of Louisville for many years; for a long time a member of the general council and of the school board, died at his home in Louisville, May 18, aged 73.

Frank **Lowber James, M.D.** University of Munich, Germany, 1861; St. Louis College of Physicians and Surgeons, 1882; of St. Louis; scientific editor of the *National Druggist;* noted as a linguist and microscopist; a Confederate veteran, died at Bethesda Hospital, St. Louis, May 19, from erysipelas, after a short illness, aged 66.

James **E. Casey, M.D.** Albany (N. Y.) Medical College, 1852; a member of the medical societies of the state of New York and of Herkimer County; who had been in practice in Mohawk, N. Y., for more than 50 years; once superintendent of schools of Montgomery County, died at his home in Mohawk, May 19.

Samuel **L. Dally** (Years of Practice, Pa.); hospital steward and surgeon of the First Ohio Volunteer Light Artillery throughout the Civil War; a practitioner of Oakdale, Pa., for 37 years, died at his home in that place, May 2, from cerebral hemorrhage, after an illness of seven weeks, aged 73.

George **Rufus Preston, M.D.** Eclectic Medical Institute, Cincinnati, 1903; a member of the Keuka Lake Medical and Surgical Association and of the Dansville (N. Y.) Medical Association, died at his home in Dansville, May 16, from scarlet fever, after an illness of one week, aged 30.

William **Rodes, M.D.** College of Physicians and Surgeons, Baltimore, 1876; of Lexington, Ky., who had suffered from rheumatism for the last four years and had spent his winters in Clear Water Harbor, Fla., died suddenly at that place, May 14, from rheumatic endocarditis, aged 56.

Joseph **Addison Burke, M.D.** Saginaw Valley Medical College, Saginaw, Mich., 1903; of New Lathrop, Mich., and formerly a practitioner of Judd's Corners, Mich., died at the Nichols Hospital, Battle Creek, from a general breakdown, May 2, after an illness of two weeks, aged 31.

William **H. Paul, M.D.** Miami Medical College, Cincinnati, 1882; a member of the American Medical Association, and a prominent practitioner of Danville, Ill., died at St. Elizabeth's Hospital in that city, May 15, from cerebral hemorrhage, after a short illness, aged 59.

Aaron **Morris, M.D.** Medical College of Ohio, Cincinnati, 1868; surgeon of the Second Ohio Volunteer Infantry during the Civil War; formerly of Goshen, Ohio, died at his home in Madisonville, Cincinnati, May 5, after a short illness, aged 69.

John **A. Riggen, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1878; a veteran of the Civil War; formerly a resident of What Cheer, Iowa, and state senator, died May 12, at his home in Siloam Springs, Ark., after a long illness.

R. **R. Dashiel, M.D.** University of Pennsylvania, Department of Medicine, Philadelphia, 1837; formerly a resident and postmaster of Jackson, Tenn., died at the home of his son-in-law, at Lexington, Tenn., May 17, after a lingering illness.

Edward **M. G. Moore** (Years of Practice, Ky.); said to have been the oldest practitioner of Bullitt County, Ky., died at his home in Mount Washington, May 14, after an illness of more than a year, from disease of the stomach, aged 82.

James **H. Stamper, M.D.** Louisville (Ky.) Medical College, 1889; a member of the Kentucky State and Wolfe County medical societies, died at his home in Campton, Ky., May 14, from pneumonia, after an illness of three weeks.

John **H. Wengert, M.D.** College of Physicians and Surgeons, Baltimore, 1879; formerly a practitioner of Fredericksburg, Pa., died suddenly at his home in Windber, Somerset County, Pa., May 12, from heart disease, aged 49.

William E. Whitworth, M.D. University of Nashville (Tenn.) Medical Department, 1877; for many years a practitioner of Davidson County, Tenn., died at his home near Donelson, Tenn., May 13, after a long illness.

William Barnard Graves, M.D. College of Physicians and Surgeons, Baltimore, 1901; died at his home in Dubois, Pa., May 10, from typhoid fever following pneumonia, after an illness of seven weeks, aged 33.

Archibald Cleghorn Bass, M.D. Bellevue Hospital Medical College, New York City, 1880; of Columbus, Ga., died at the Rankin House in that city, May 14, from nephritis, after an illness of two years, aged 49.

Milton See Sherwood, M.D. Yale Medical School, New Haven, Conn., 1898; of New York City; a member of the medical societies of the state and county of New York, died at Pocantico Hills, N. Y., May 14.

Richard R. Sale, M.D. University of Iowa, College of Medicine, Iowa City, 1858; a practitioner of Colona, Ill., for 45 years, died at his home in that city, May 20, from angina pectoris, aged 73.

Frederick W. Hicks, M.D. Southern Homeopathic Medical College and Hospital, Baltimore, 1907; of Ohio, died in St. Luke's Hospital, Baltimore, May 15, from pneumonia, aged 30.

R. D. C. Dood (License, Arkansas, 1903); a Confederate veteran; for many years a practitioner of Polk County, Ark., died at his home in Mena, March 26, from heart disease, aged 65.

Philip Gross Havice, M.D. Fort Wayne (Ind.) College of Medcine, 1895; is reported to have committed suicide by gunshot wound, at his home in Wren, Ohio, May 18, aged 35.

Ossian Sumner, M.D. Jefferson Medical College, Philadelphia, 1842; for more than 60 years a resident of Providence, R. I., died at his home in that city, Nov. 11, 1906, aged 87.

Calvin J. Woods, M.D. Starling Medical College, Columbus, 1849; of Centerville, Ind., died May 14, at De Funiak Springs, Fla., where he was spending the winter, aged 88.

Philip G. Zapp, M.D. Marion-Sims-Beaumont Medical College, St. Louis, 1903; of St. Louis, died in Denver, Colo., May 13, aged 44.

Death Abroad.

Sir Joseph Fayrer, K.C.S.I., LL.D., F.R.S., M.D. Edinburgh, 1849; F.R.C.P. London, 1872; F.R.C.S. Edinburgh, 1858; F.R.C.S. England, 1878; M.R.C.S. England, 1847; honorary physician (military and physician extraordinary to the King of England; surgeon general, retired; who entered the Bengal medical service in 1850, served through the Burmese War, the Indian Mutiny and the defense of Lucknow; professor in the Medical College of Calcutta, and president of the medical board in the India office from 1874 to 1895; a prolific writer, who made especial studies and researches on the snakes of India, and whose work on "The Thanatophidia of India" is a classic, died at his nome in Falmouth, Eng., May 21, aged 82.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEW MEXICO Board of Health, Santa Fe, June 3. Secretary, Dr. B. D. Black, Las Vegas.

MINNESOTA State Board of Medical Examiners, St. Paul, June 4. Secretary, Dr. W. S. Fullerton, St. Paul.

MARYLAND Homeopathic Board of Examiners, Baltimore, June 4. Secretary, Dr. Joseph S. Garrison, 848 W. North Ave., Baltimore.

OHIO State Board of Medical Registration and Examination, Cleveland, Columbus and Cincinnati, June 10-12. Secretary, Dr. George H. Matson, Columbus.

KENTUCKY State Board of Health, Louisville, June 11. Secretary, Dr. J. N. McCormack, Bowling Green.

SOUTH CAROLINA State Board of Medical Examiners, Columbia, June 11. Secretary, Dr. W. M. Lester, Columbia.

OKLAHOMA Board of Medical Examiners, Guthrie, June 11-12. Secretary, Dr. J. W. Baker, Enid.

KANSAS State Board of Medical Registration and Examination, Kansas City, Kansas, June 11-13. Secretary, Dr. F. P. Hatfield, Grenola.

IOWA State Board of Medical Examiners, Des Moines, June 11-13. Secretary, Dr. Louis A. Thomas, Des Moines.

MICHIGAN State Board of Registration in Medicine, Ann Arbor, June 11-13. Secretary, Dr. B. D. Harison, 205 Whitney Building, Detroit.

FLORIDA Homeopathic Board of Medical Examiners, Jacksonville, June 18. Secretary, Dr. C. W. Johnson, Jacksonville.

DELAWARE Board of Medical Examiners, Dover, June 18. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

DELAWARE Homeopathic Board of Medical Examiners, Wilmington, June 18. Secretary, Dr. C. M. Allmond, Wilmington.

NEW JERSEY State Board of Medical Examiners, State House, Trenton, June 18-19. Secretary, Dr. J. W. Bennett, Long Branch.

VIRGINIA State Medical Examining Board, Lynchburg, June 18-21. Secretary, Dr. R. S. Martin, Stuart.

WYOMING Board of Medical Examiners, State Capitol, Cheyenne, June 19. Secretary, Dr. S. B. Miller, Laramie.

MARYLAND Board of Medical Examiners, Baltimore, June 19-22. Secretary, Dr. J. McPherson Scott, Hagerstown.

PENNSYLVANIA State Board of Medical Examiners, 708 Locust Street, Philadelphia, and in Pittsburg Academy, Ross and Diamond Streets, Pittsburg, June 25-28. Secretary, Dr. Winters D. Hamaker, Meadville.

PENNSYLVANIA Homeopathic Board of Medical Examiners, N. W. Corner 15th and Cherry Streets, Philadelphia, June 25-28. Secretary, Dr. C. S. Middleton, 1523 Girard avenue, Philadelphia.

PENNSYLVANIA Eclectic Board of Medical Examiners, Harrisburg, June 25-28. Secretary, Dr. W. H. Blake, 2116 N. Marvine Street, Philadelphia.

TEXAS State Board of Medical Examiners, Austin, June 25-27. Secretary, Dr. T. T. Jackson, San Antonio.

To the Medical Students Graduating in 1907.—*Medical Notes and Queries* gives the following advice to the new graduates: "Those who enter on the practice of medicine this year will do so under conditions that have never previously prevailed in the history of medicine. The wonderful progress that has been made in medical and surgical subjects renders it impossible for even the specialists to keep abreast of the time, and yet, owing to the education of the laity in matters pertaining to medicine, more and more knowledge on a greater variety of subjects is expected from the physician. That there has been an awakening of the public conscience in regard to certain abuses which have crept into the medical profession and that the medical profession is more united than ever before are well-known facts to the most careless observer of what is going on around him. You will probably graduate from your college with a greater variety of theoretical knowledge than you will ever have again. It is to be hoped that your ideals are high; but you have not been taught what is essential to success, the so-called ethics of the profession and the business details necessary to bring you in a suitable income from the practice of your profession. It is well to remember at the outset of your career that if you start to practice in the city the ultimate returns will be greater than in the country, but that it will take at least five years in the city to secure an amount of money from your practice that you might obtain by a one year's sojourn in a well-selected country practice.

"If you possibly can, secure a hospital interneship, and if your funds permit go abroad for a year and study the languages and pathology along with some subject in which you may be interested. Do not stay there too long, nor while abroad get into certain habits which you will be unable to throw off on your return to America. Join your county medical society, your state medical society, and the American Medical Association. You will probably, within five years, see the reunion of all the so-called medical sects into one. The only difference to-day is in therapeutics, and there are but few who think alike in regard to this matter. If you join the American Medical Association you will secure, free of charge, THE JOURNAL of the American Medical Association, one of the best medical weeklies published in the world, containing in its issue of March 2 one hundred pages of selected reading matter. You should, in addition to this paper, subscribe to one or more of the more local journals and this along with your state medical journal will keep you fully informed as to what is happening in your own neighborhood. In addition, subscribe to one journal in a foreign language; even if you are unable to read it, the constant reminder by the regularity in its coming will make you ambitious to master its contents.

"After you have decided on your locality call on the physicians in your neighborhood. This is the old English custom and is a proper one to pursue. You may be received with formal dignity by certain members of the profession, but you will be discourteously treated by only a few. Do not have too long office hours, and immediately try to connect yourself with a teaching institution, a dispensary or a medical journal. Make it a point to spend at least one hour a day in reading medical works and another hour on general literature. Do not let your stock of books run down. Be sure to purchase at least six well-selected works each year. A book that is five years old to-day is out of date, and except as a reference work, or if it be a classic, should not be consulted for the latest medical thought.

"There is a return to the United States Pharmacopeia, the National Formulary, and the well-written prescription for the giving of medicine. The new Food and Drugs Act of the United States will do much to prevent the giving of ergot or nux vomica containing an insufficient quantity of its active ingredients. Live and let live should be your rule in dealing with the pharmacist, but let there be no dealing with the druggist who sells abortifacients to the women, and alcoholic drinks and cocain at the soda-water fountain.

"You will probably not be out long in practice before you will be asked to perform an abortion, often under the plea that it is essential for the health of the mother. But it is an undisputed fact in these cases that they are most often unmarried, and this in itself should lead one to be most careful. In those rare instances where an abortion must be performed to save the life of the mother, be sure that it is only done after proper consultation and with the full consent and knowledge of the next of kin. One of the most important facts to remember is, on all occasions make a postmortem examination of those who have died under your care. There is nothing more interesting than to see the pathologic appearances of the organs which have given rise to symptoms which you have diagnosed during life. But, alas, it happens more often that the conditions are not those which you have diagnosed or the suspected lesions represent but a small part of those found.

"The great question of the value and practicability of uniformly carrying on laboratory methods must be considered as *sub judice*. It is certainly impossible, however, for any one conscientiously to practice medicine without using them more or less frequently. Besides the examination of the urine, blood and alimentary contents, the tests undertaken by our various boards of health are those which are most frequently needed, namely, the Widal test, and the examination for tubercle bacillus, and the diphtheria bacillus.

"One should remember that at the present time the cost of the automobile is practically more than that of a horse; that the expenses of living were never so high as they now are; and that the number of physicians in proportion to population is greater than ever before; that the decrease in sickness, owing to the control of certain epidemics and the increase of popular knowledge of certain sanitary measures, causes less work than ever before. You will, therefore, find that it is much easier to decrease your expenditures rather than to increase your income. Protect yourself in every way from malpractice suits.

"Keep a careful record of your cases, preferably on the card-index system, and be sure that, whatever method of bookkeeping you adopt, it be such that it may be used in court. Be ever ready to attend the poor, and remember that there is more real and hidden poverty among the so-called gentility than is to be found even in the outward manifestations of the slums. Be courteous to those with whom you come in contact; respect the opinions of your elders, and do not be too hasty to enter into partisan politics. Avoid stimulation and be most careful in regard to the use of morphin by injection and the renewal of prescriptions containing harmful ingredients."

Classification of Colleges.—In THE JOURNAL, May 18, pages 1704 and 1705, was published a classification of medical schools based on state board examinations for the two years 1904 and 1905. The figures included old practitioners taking the examinations as well as recent graduates. There are a number of colleges included in the lists which have made combinations with other schools or have undergone reorganization, thereby greatly improving their facilities for teaching medicine. Special attention is therefore called to another classification published in THE JOURNAL of May 25, on pages 1785 and 1786, which is based on the examination of *recent graduates* during 1906. It is an encouraging sign that instead of only 41 having less than 10 per cent. of failures there are 62 now in that class.

New York's New Practice Act.

The new medical practice act has been signed by Governor Hughes and goes into effect at once. The law provides that in place of the three separate boards there shall be one examining board, composed of nine members appointed by the regents. In constituting the first board three members shall be appointed for one year, three for two years and three for a term of three years. Each year thereafter three members shall be appointed for a term of three years. The regents are not restricted in their choice of members except that the appointee shall be eligible to receive a license to practice medicine and must have been in active practice in the state for at least five

years. The regents have the power to remove any member of the board at any time for misconduct, incapacity or neglect of duty. A secretary to the board is to be appointed by the regents, who holds office during their pleasure. He must be a licensed physician, but is not a member of the board of examiners.

Examination questions are prepared by the board of examiners and submitted to the regents, who select from them the questions to be asked at the examinations. Each examination is conducted by a regents' examiner, who is not to be a member of the examining board. After the examination the papers are graded by the board of examiners and the results turned over to the regents. Examinations will be held in four or more convenient places and at least four times each year. Candidates failing at one examination may, after not less than six months, have a second examination without fee. Each applicant must have paid an examination fee of $25, must be 21 years of age, of good moral character, must have completed his preliminary education, the equivalent of graduation from a registered high school, prior to beginning his second year of medicine, and must have graduated from a reputable medical college acceptable to the regents. He must have studied medicine four years of at least seven months each, and must pass the examination required by the regents. Provision is made for examining in anatomy, physiology, hygiene, sanitation and chemistry, at the end of the sophomore year, this credit to be acceptable toward the examination for license after four years in a medical college have been completed. The licensing examination covers the subjects named above unless applicant has already passed examination in them, as well as surgery, obstetrics, gynecology, pathology including bacteriology, and diagnosis. Provision is made for reciprocity with states having equal standards and for the accepting of candidates of known eminence and ability regardless of reciprocity. For graduates from colleges of osteopathy, applicant must have studied at least three years, including three satisfactory courses of nine months each, in a college of osteopathy maintaining at the time a standard satisfactory to the regents. After 1910 osteopathic candidates must present credentials similar to those required of other candidates. Each osteopath now in practice must present evidence of graduation from a regularly conducted college of osteopathy in the United States which at the time of his graduation required a course of study of two years or longer, including the subjects of anatomy, physics, pathology, hygiene, chemistry, obstetrics, diagnosis and the theory and practice of osteopathy, with actual attendance of not less than 20 months, which facts shall be shown by the diploma and an affidavit. Then, after paying a fee of $10, the applicant will be issued a license without examination. The license to practice osteopathy shall not permit holder to administer drugs or perform surgery with the use of instruments, but he will be entitled to the use of the degree D.O., or doctor of osteopathy.

Licenses must be registered in the county where applicant locates, and careful directions are given in order to prevent fraud, misrepresentation or mistakes. The regents have the power at any time to inquire into the identity of any person claiming to be a licensed physician and to revoke any license for cause. Among the causes mentioned for revocation are: Fraud or deceit, crimes or misdemeanors, habitual drunkenness, the habitual use of morphin, opium, cocain or other drugs having a similar effect, and the performance of criminal operations. Action may be begun on charges preferred by any person or corporation or by the regents themselves. After licenses have been revoked they may be restored in the discretion of the regents. This article is not to be construed to affect medical officers of the United States Army, Navy or Marine-Hospital Service while so commissioned; or any one engaged in the practice of dentistry, or who fits or sells lenses, artificial eyes, limbs or other apparatus, or to affect any doctor from an adjoining state who shall be called in consultation with a local legally registered physician.

Any person who practices without first being duly registered or who shall practice under any unlawful means shall be guilty of a misdemeanor, while practicing under an assumed name or impersonating another constitutes a felony and any one so practicing is subject to a fine in accordance with penal code for such offense. Fines collected will go toward the expense of the prosecution.

The practice of medicine is defined as follows: A person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method, to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, June 4-7.

American Academy of Medicine, Atlantic City, N. J., June 1-3.
American Association of Medical Examiners, Atlantic City, June 3.
American Gastro-Enterological Association, Atlantic City, June 3.
American Proctologic Society, Atlantic City, June 3-4.
American Urological Association, Atlantic City, June 3-4.
Maine Med. Assn., Lewiston, June 12-14 (changed from June 5-7).
Massachusetts Medical Society, Boston, June 11-12.
Medical Society of North Carolina, Morehead City, June 11-13.
Rhode Island Medical Society, Providence, June 13.
Medical Society of New Jersey, Cape May, June, 25-27.
Oregon State Medical Association, Seaside, July 12-13.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at Washington, D. C., May 7-9, 1907.

The President, DR. DUDLEY P. ALLEN, Cleveland, Ohio, in the Chair.

The Teaching of Surgery.

DR. DUDLEY P. ALLEN, in his address as president, urged the training of surgeons; first, thorough and broad instruction; second, prolonged hospital residence and postgraduate study, and third, the establishment of some standard of attainment which must be reached by men to gain them general recognition by the profession. If these ends be attained, the community and the general profession will not long remain in doubt as to the men who are deserving of their confidence and support. Such a standard, he said, would do much to protect the public from incompetent men, and to place in the hands of capable surgeons those facilities, which they alone are able to utilize to the best development of their profession and the best interests of humanity.

Spinal Anesthesia.

PROF. E. KÜSTER, Marburg, Germany, dealt particularly with novocain, as a spinal anesthetic. He presented his conclusions, based on about 300 cases. His results have been most convincing to him that in operations on the lower extremities, and in fact, in operations up as high as the umbilicus, spinal anesthesia is justifiable. He also believes it very suitable for examinations, and for the introduction of instruments. Although he has frequently gone above the line of the umbilicus when using novocain, he finds that it sometimes is necessary to induce general narcosis. Patients feel absolutely no pain. There is, however, generally a feeling of sickness and desire to vomit. On the average, at the end of an hour and a half the action of the anesthetic will be over, and the patient will begin to experience genuine sensations of pain.

Some patients, who during the anesthetic experience motor paralysis, later assert that they still feel a sensation of weakness in their legs which does not prevent their walking, but makes them limp a little. In a few hours this is completely overcome. It is noteworthy that sensation returns more quickly than does motion. The principal ill effect following lumbar anesthesia by novocain is headache, which appeared in 14 per cent. of Küster's first 200 cases. He states, however, that this can readily be relieved by puncture of the dural cavity and the withdrawal of about 10 c.c. of fluid. The author has only once seen pneumonia follow the use of this anesthetic, and it is noticeable that in this case a general narcosis was finally necessary.

Continued Passive Hyperemia in Delayed Union of Fractures.

DR. JOHN B. ROBERTS, Philadelphia, called attention to the fact that continuous hyperemia, produced by a rubber bandage placed around the limb above the seat of fracture, has a tendency to cause the formation of callus in cases of delayed union of fractures. During the use of the rubber bandage calcium salts, phosphorus in some form, and tonics should be given, and the patient is to be encouraged to live as much as possible in the open air. Where there is a mechanical impediment to union, incision with readjustment of the relations of the soft tissues and the bone, is necessary. Fixation with nails or staples can then be employed, and continuous hyperemia used as an adjuvant.

Resection of the Sound Femur in Gigantism and Asymmetry.

DR. ROBERT W. JOHNSON, Baltimore, suggests the shortening by operation of sound femora in order to decrease height, or to make even the legs of those suffering from shortening due to previous fracture or other causes. His proposal is as follows: After the patient has accepted the operation with a full knowledge of its possibilities, under the most rigid asepsis and careful constitutional building up, the surgeon should cut down on the femur at the junction of its middle and lower third, and from that region excise from two to two and a half inches from the shaft, then bring the proximal and distal ends together by chromicized catgut, silk or silver wire. The wound should be dressed either with or without a drain, encasing the limb from toe to pelvis in plaster-of-Paris, so to remain until union becomes firm. Without infection the limb should unite in about ten weeks. When performing this operation for excessive height Dr. Johnson suggests an interval of at least three months between the operations on the two femora.

Temporary Resection of Both Superior Maxillæ for Nasopharyngeal Tumor.

DR. FREDERICK KAMMERER, New York, reported a case of removal of a fibroid tumor of the nasopharynx by temporary resection of both superior maxillæ after the method of Kocker. The patient had already undergone an attempt at removal of the tumor by the Chassaignac-von Bruns method, at the hands of another surgeon. The operation by the author was done in 1904. Several months ago he examined the patient and could find no recurrence of the growth. No injury resulted to the upper row of teeth, and no deformity in the upper jaw.

A New Method of Rhinoplasty.

DR. J. M. T. FINNEY, Baltimore, reported two cases of reconstruction of the nose by means of the ring finger. In both cases the bony support of the nose, including the septum, was entirely destroyed; the integument remained, but was retracted and distorted. Instead of the usual prominence of the nose there was a depression. The first patient was operated on in 1902. On last report the operation had proved most satisfactory. The second patient was a young woman, 16 years of age, on whom he operated some six months ago.

(To be continued.)

MISSOURI STATE MEDICAL ASSOCIATION.

Semi-Centennial Meeting, held at Jefferson City, May 15-17, 1907.

The President, DR. C. H. WALLACE, St. Joseph, in the Chair.

Officers Elected.

The following officers were elected: President, Dr. W. F. Allee, Olean; vice-presidents, Drs. O. F. Piles, Memphis; C. E. Hough, Jefferson City; C. V. Cook, Rayville; A. H. Vendervert, Bethany; secretary, Dr. J. W. McAllister, Kansas City; treasurer, Dr. J. Franklin Walsh, Salisbury; delegates to the American Medical Association: for two years, Drs. C. M. Nicholson, St. Louis; F. E. Murphy, Kansas City; for one year, Drs. F. R. Anthony, Maryville; O. B. Campbell, St. Joseph; alternates, Drs. W. E. McKinley, W. T. Elam and Frank Keith.

Report of Secretary.

The secretary, Dr. C. M. Nicholson, reported that nearly all the counties in the state have been organized and that the membership of the association numbers 2,437.

Committee on Tuberculosis.

The association adopted the report of its committee on tuberculosis, recommending the organization of a society for the investigation and control of tuberculosis, consisting of members of the association and others. The organization was effected and Dr. George Homan of St. Louis was elected chairman.

The meeting was well attended and many interesting papers were read.

Springfield was selected as the place for holding the next annual meeting.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.

Third Annual Conference, held at Chicago, April 29, 1907.
(Concluded from page 1807.)

EDUCATION IN THE SOUTH.

At the afternoon session the first speaker was Chancellor J. H. Kirkland, of Vanderbilt University, who addressed the conference on "Conditions Controlling Education in the South."

His experience in connection with literary education and as an official member of the faculty of medicine of his university has shown the difficulty of advancing educational standards in the South. Twenty years after Vanderbilt University established a high entrance requirement the Carnegie foundation for the advancement of teaching issued a bulletin defining the preliminary requirements necessary for a high-grade college in fourteen units, and the Carnegie foundation cited the course of Vanderbilt University alone of all the colleges in the South as meeting those requirements. The explanation is that the South covers a large territory that is mostly agricultural, not well provided with public schools, and with practically no system of public high schools. Many of the so-called high schools are of low standard, beginning sometimes with the sixth or seventh grade and giving not more than one year of real high school work. The entrance requirements of the best institutions are not what they should be, since scarcely more than a dozen institutions in the South come up to a respectable standard, while there are scores below it. The Southern College Association for Literary Schools, after fourteen years of effort, has been able to secure only eighteen colleges that would agree to require a three years high school course as a standard of admission to college. The speaker said he could point to a university whose charter stated as its express purpose the preparation of boys for college, and there were other institutions not so honest as to express their purpose that did not give even that preparation.

These are the conditions under which the educators of the South have had to work. While he was profoundly interested in the elevation of professional education, the question always, as propounded to him, is a practical rather than a theoretical one, and any proposition along that line must stand the test of practical adjustability in order to commend itself to his judgment. He has advocated openly the regulation by the state of all degree-conferring institutions. He has advocated a board of education that could take away from literary institutions the right to confer degrees and that should, by establishing some slight requirement, put all of our institutions on a plane, if not creditable, at least respectable, but it is very hard to get such a thing enforced.

An educational revival should express itself, first of all, in getting rid of a number of institutions, literary as well as professional; and yet the question is, How can it be brought about? A law may be passed, for example, that no student shall be received into a medical college without having received an A.B. degree; there are enough colleges in the South to fill the medical schools with A.B. graduates, not one of whom could pass a high school examination and get into the freshman class of a high grade college. That, however, would not be promotive of sound standards, of honest work, or of the real elevation of professional standards in medical education. He would like to see the requirement of a thorough high school course enforced. He would like very much to see a method devised by the council of inspecting institutions to see whether such a requirement is enforced. There is not much advantage in making higher requirements until those now demanded are, to some extent at least, being lived up to. There is a Southern Medical College Association that attempts to have a requirement of two years' high school work for admission to a medical college, but the speaker had not heard of any student removed from any Southern medical institution through the enforcement of this standard.

One of the greatest services that this conference can render is to devise some plan by which the state will assume the responsibility for the admission of medical students as well as for their graduation and admission to practice. It can not be left to the institutions alone, but if the state intervenes a high school preparation might be enforced as the minimum require-

ment for the study of medicine.. Chancellor Kirkland does not believe, however, that the interests of medical education in the South would allow the establishment of a much higher standard at present. Suppose, for instance, that an attempt were made by outside influences to demand of all medical colleges a preliminary course in the sciences that have been outlined here. It would mean a two years' college course in a reputable institution, and there are few institutions in the South capable of giving the kind of course that has been outlined. There are few Southern colleges prepared to teach biology. Students who had not had even a high school education would present certificates from chartered colleges, stating that they had had two years of academic work and had done work in physics, chemistry and biology, when, in fact, it would have been far better for them if they had been studying English, Latin, algebra and geometry, instead of putting in their time on biology, physics and chemistry, for which they were not fit. The cause of medical education would by no means be promoted if a premium were put on the continuance of such methods of instruction, and it would be a step backward rather than forward to insist on it. It would be putting a premium on deceit, for the poorer colleges would undertake to do the work with poor equipment and inefficient teachers and certify that the courses had been taken. It is well for the Council, which stands for education in all parts of our country, to deal with these things as facts and meet them in a way that will be operative.

It is to be remembered that the ultimate power in these matters rests with our state boards and state legislatures. It has been hard to get some of the states in the South to make and enforce a standard that all agree on demanding. This has been true of pharmacy and of law, as well as of medicine. If we undertake too rapidly or too violently to put on these boards a standard higher than they can enforce, the result will be a reaction. The present laws will be repealed, medical education disorganized, and the legislature will say, "We do not propose to make laws to satisfy the demand of Minnesota or Massachusetts; we will make our own laws, and we will simply do away with what we have and let all young men go into practice who want to."

Education in the South lacks funds, and we must seek both public and private endowment, but all our efforts must be practical; they must be directed to some end. In a spirit of enthusiasm we should not go beyond what can be administered, and, above all things, we should try to make good the ground we have gained before we assume to move out from our base and strive for additional territory. That ground is the requirement that the Council has suggested, of a thorough high school education, as a preparation for medical education. There is great hope in inspection. If this Council would inspect and tell the truth about all our institutions, point out their defects, point to their equipment, and give the facts as regards them, and as regards their manner of teaching, the moral force that would be exerted by such inspection would be a tremendous power and would have an uplift that could not be calculated or realized, and would be more efficient in the long run than an attempt by too drastic legislation to secure results that might work disaster to the cause we all have so dearly at heart.

INSPECTION OF PRELIMINARY CREDENTIALS BY AN OFFICER OF THE STATE EXAMINING BOARD.

In the absence of Dr. Dudley Tait, California, who was to have read a paper on this subject, the Chairman called on Dr. S. D. Van Meter, Colorado.

DR. VAN METER said:—Mr. Chairman, it is rather difficult for me to reply to an important subject like this without preliminary preparation. But having had some little experience in the inspection of preliminary and other documentary evidence of qualification, I will attempt to offer a few suggestions which I hope may be of value.

In the first place, it may be stated the average executive officer of a board of medical examiners is not equipped or prepared to examine high school graduates for entrance to medical colleges or to pass on the documentary evidence, diplomas and certificates. In this Council I have urged for a number of years the establishment of inspection of medical colleges and institutions giving a preliminary education for entrance to medical schools. I believe it is a financial impossibility for a board, or an executive officer, or any committee of that board, to inspect the different institutions of the country and give anything like an intelligent report thereon. As a member of the Colorado Board, I welcome the support of the Council regarding the inspection of different medical schools; let it be extended to the institutions giving preliminary instruction. The speaker who just preceded me has mentioned a sad dilemma in the South as to its medical educational institutions. I am sorry that such things still exist, but I believe that the solution of the dilemma which he has so graphically portrayed lies in the careful administration, by the state examining boards, of the questions that come before them. This inspection, based on the credentials, preliminary and otherwise, will be effectual in direct ratio to the personnel of these boards, and while I do not like to be considered a "knocker," I must say that I am ashamed of many of my confrères who are on the examining boards in the different states. I do not believe they are appointed from the best timber the profession affords. The organized profession of every state should begin long ahead of the time the appointments are made to select men with judicial minds, men who are trained and unqualified to pass on credentials and to pass on the qualifications of applicants before the boards. In my opinion, the solution lies in this Council collecting data from year to year, imperfect at first as it must be, but as it accumulates year after year it will become a most reliable reference from which the boards may determine what a high school diploma and what an A.B. from that or this institution means as to qualification.

In this connection I would like to speak of the advisability of having some record kept by this Council, or by some department of the American Medical Association, of the different men throughout the country who have been crooked in their dealings or who have failed in applications for licensure. Nothing would assist the examining boards more when such people apply for license in those states. In the last quarter we turned down, in Colorado, four men who were advertising to cure sexual diseases. We sent one man to prison for making a false record as to graduation. He claimed to have taken three courses at one of the Chicago medical colleges and one course at Omaha, while as a matter of fact we were informed that he entered the fourth year of the Chicago college on credentials of three years' attendance at another Chicago college. Another man we discovered, by inspection of his record, was a fugitive from justice. If every board reported monthly to this Council or to some other department, and such data were collected and kept on record, the secretary or executive officer in inquiring as to what credit should be given for preliminary and college education could easily find out many things or points about the applicant's moral character that would be invaluable in deciding the important question of education and moral qualification to practice medicine.

WHAT CONSTITUTES A REPUTABLE MEDICAL COLLEGE?

Dr. Howard J. Rogers, First Assistant Commissioner of Education, New York, who was to have spoken on this subject, was absent, and Dr. Victor C. Vaughan, Michigan, was asked to present the subject briefly. Dr. Vaughan said:

The science of medicine is a collection and classification of facts gathered from the various sciences which can be utilized in the cure or prevention of disease. The practice of medicine is the utilization of facts contributed by various sciences in the treatment or prevention of disease. With this as my text, I will say that there are two methods of teaching medicine. The one is reputable, and the other is not. All of us gray-headed men, who graduated twenty-five years or more ago, received our medical education in a class of schools that would now hardly be called reputable. We feel this. We suffer from it every day. I say there are two ways to teach medicine. One is to take the isolated facts from the various sciences which are utilized in the treatment or prevention of disease and to teach them as isolated facts. That is the way we studied medicine. When we studied anatomy we did not know anything about the development of the human body. We knew nothing about embryology; possibly we saw a few models, but we knew nothing about the evolution of the different parts of the human body. We were taught regional and surgical anatomy that we might have this knowledge, so that we could utilize it in any surgery we might

do. We were not taught any of the principles of chemistry; we were taught that it was not a good thing to mix acetate of lead with sulphate of zinc, because a precipitate would be formed, but we had no idea of the general principles of chemistry at all. We were taught that morphin, strychnin and similar bodies are alkaloids and obtained from plants, but as to the nature of the alkaloids we knew nothing. We were taught to use this knowledge by rule of thumb. Now, there are some medical schools still teaching medicine in that way. They are not teaching bacteriology as a science at all. They show this student how to stain the tubercle bacillus; they have a few microscopes, and the teacher gets out a culture of the tubercle bacillus, makes a stain, and shows the students how to stain tubercle bacilli. But they could not make a culture of it; they would not know how to go about it.

I think I am not violating any confidence when I say that there are certain men who teach bacteriology and who start at the beginning of their lectures with a lot of tubes already made. They do not know enough about bacteriology to make cultures. They hold up these tubes and say, "This is a diphtheria culture; this is a culture of tubercle bacillus," and if by any chance a culture goes bad they send and get another. That knowledge is worth something, of course. I have seen a man who had no special training, working as a carpenter, cut a brace to fit an angle with accuracy every time. He never made a mistake, but he did it by rule of thumb. I have been at sea with men who could take the latitude and longitude of ships, but they did it by rule of thumb. They knew nothing about astronomy. That is one way of teaching medicine. Unfortunately, it is a method that is still followed to some extent.

The other way of teaching medicine is to teach the student the fundamental principles of these different sciences which have contributed to medicine; the fundamental principles of physics, of chemistry, of biology, embryology, of bacteriology, and to teach them as sciences apart from their practical application. When a man has been instructed in this way he has within him the capability of growth. He has the foundation; of course, it is not possible for a man to be expert in any one or two of these branches, but every medical student should have the fundamental principles of chemistry, of bacteriology ground into him. He should not only know how to stain the tubercle bacillus, how to recognize the diphtheria bacillus, but he should know how to make culture media, how to grow them, how to differentiate, how to inoculate animals, how to study lesions induced in these animals. It seems to me that right here, in the difference between these two methods of teaching medicine we have a distinction between reputable and a non-reputable college, as we look at it to-day. One is a scientific training; the other is a rule of thumb training; the one is building on the rocks; the other is building on the sand.

I am free to admit, and I am glad to testify, that the old method of medical education has given us many splendid results. But it has given us these results because the men who studied medicine in the old way did not stop its study when they left school; they have continued, and they have learned scientific methods, have adopted them, and carried them out, and I am perfectly willing and glad to testify that there are many of the poor schools to-day which are turning out men that will be capable practitioners of medicine. There are some men who will succeed in the practice of medicine, I do not care where they graduate. But the point I want to make is, for the great mass of medical students, for the average student, it is absolutely impossible to give him the scientific education that he ought to have, that he has a right to demand without, in the first place, his having the proper qualifications to build on; and, in the second place, without the school being able to furnish the equipment, the apparatus, the facilities necessary to teach medicine in a scientific way; and, in the third place, and probably this is quite as important as anything else, and that is, he should have as teachers scientifically trained men. I think this is the fundamental difference between the proper way of teaching medicine and the improper way of teaching it. I do not like the words "reputable" and "non-reputable."

While I am on my feet, I want to say one word more. I was much interested in what Chancellor Kirkland, of the Vanderbilt University, said about the condition of things in the South. I have no fear whatever that the South will, if you give it a little time, recuperate itself and bring forth good medical men. When I am called on by my students to hold up to them the name of some illustrious American physician, I frequently go to the South. Who was Ephraim McDowell? Who was Bradshaw, who made the first, or one of the first, successful amputations of the hip joint? Who was J. Marion Sims, a practicing physician in the then village of Montgomery, Ala.? Who was Long, who first utilized anesthesia in the removal of tumors? Above all, who was Walter Reed, a graduate of a Southern medical school; a man who wrote the brightest, and, I might say, the only bright page in the history of American intervention in the affairs of Cuba? So I am not at all afraid that the South will not do its duty in medicine as it has in many other things.

METHODS OF CONDUCTING STATE BOARD EXAMINATIONS.

Dr. Beverly D. Harison, Detroit, read a paper on this subject, as follows:

My time recently has been so much occupied with other very immediate and necessary duties that I have had no opportunity to give to this very interesting, important and practical subject the thought and preparation it deserves. I will, therefore, not attempt to cover the subject in a thorough or exhaustive manner, but rather from such a standpoint and briefly as will tend to bring out discussion and the opinions of those present who are better qualified than I to review the subject.

THE WRITTEN EXAMINATION.

The almost universal method of written state board examinations in this country has its advantages and disadvantages. From the point of view of utility and perhaps necessity at this time, the written examination takes precedence over all other forms, and the reason for this seems very clear, and is due to several seemingly uncontrollable circumstances and conditions which may informally be enumerated as follows:

1. Conditions involving a board membership representing the several schools of medicine recognized by law. This condition is suggestive of embarrassment in selecting any one-school hospital, clinic or laboratory for the purposes of examination.

2. Membership on a medical board is usually limited to practitioners in general practice and who have no active connection with schools or hospitals as teachers, and who, in order to qualify legally for membership, are required to have been several years in active practice. While the above limitations covering membership presume absolute independence of medical college influence, they are not qualifications necessary for a high-grade examiner.

3. The written examination is the easier and more convenient method, allowing members to prepare the questions at leisure before leaving their homes, and also not absolutely requiring their presence at an examination.

4. The usual board member receiving no compensation from the state, feels that two or three days' absence from his field is as much time as he can afford to give to an examination.

5. The expense and difficulty connected with the obtaining of proper clinical facilities necessary in this form of an examination, and also the greatly increased time necessary in such an examination.

6. The expense and difficulty in connection with the obtaining of suitable laboratories and the added expense and difficulty of obtaining qualified examiners, especially from the board members, and also the increased time required in such an examination.

7. The additional time required in an oral examination added to the written one.

THE IDEAL EXAMINATION.

I think no one will take issue with me when I state that an ideal state board examination should include, in addition to the usual written one, an oral, a laboratory and a clinical examination. The combination examination included in the written, oral, clinical and laboratory is the usual method in Great Britain, Germany and other foreign countries, and this method of examination is also in force in Ontario. It is also the usual medical college method in institutions of the first class. A written examination is by far the most ineffective test of all the usual forms of examination, for it is a well acknowledged fact that candidates who are incapable of demonstrating practically a proper knowledge and training very often succeed in obtaining a high standing in a solely written test. The results obtained in examinations where the requirement of graduation from a reputable medical school is not demanded will conclu-

sively prove this statement. A fairly thorough course in quiz compends and published examination questions and their answers will usually obtain good results in the written examination.

It must be taken for granted that the usual board method of a solely written test of qualification is unsatisfactory and non-effective from the standpoint of thoroughness and absolute testimony of an applicant's actual acquirements of knowledge necessary in the profession. The question naturally arises, therefore, is it possible and practicable to overcome the objections I have enumerated which have heretofore prevented the state board examination from being as thorough and practical as it should be, having in view the theory that the state should review the work and examinations for degree of the medical colleges? I believe under certain limitations it is not only possible, but also a comparatively easy problem for boards to conduct their examinations along more practical lines than has been the rule heretofore.

The following method proposed is merely suggestive, and undoubtedly could be improved on in relation to its detail. The examination, in order to be thorough and practical, should cover four divisions, namely (a) the writen, (b) the oral, (c) the laboratory, and (d) the clinical. Every subject listed should require an examination in at least two of these four divisions, with the total requirement of percentage divided, having in view the number of divisions in which the subject is listed. For example: Anatomy should be written and oral or laboratory; histology and embryology, written and laboratory; physiology, written and oral; chemistry, written and laboratory; bacteriology, written and laboratory; practice, written and clinical; pathology, written and laboratory; gynecology, written and clinical.

THE TIME ELEMENT.

In connection with the above suggestive division, the questions in the written examination could be reduced in number, say from the usual ten questions to five questions, and these could also be reduced in scope and the time required if necessary to the extent of 50 per cent.; therefore, a written examination formerly covering a period of three days could be reduced to one and a half or a two-day examination. Nearly all state board examinations are conducted in cities having sufficient outdoor clinics for the purpose of examination, and it would be a comparatively easy matter to obtain the use of such clinics for examinations by boards. Proper committees made up of board members could take charge and conduct the clinical and oral examinations necessary, without adding more than a day to the time taken now in the written examination. Under ordinary conditions it may be taken for granted that it would be impossible to obtain from board members any member or members sufficiently qualified to examine properly qualified applicants in laboratory work and methods. This difficulty, however, could be overcome by the appointment of one or more local laboratory men unconnected with medical schools and who could examine applicants either prior or subsequent to the regular examination, and who could also report their findings to the board when completed.

It does not seem to me to be essential or necessary that a state board examination should be either in part or wholly conducted by its members. Under the system of the identification of candidates by number the board could very properly, covering the written examination at least, appoint especially qualified examiners residing throughout the state, who would furnish the questions on the several subjects listed for examination. These examiners would be appointed with especial reference to their qualifications in the subjects assigned. The answers, when completed under the supervision of the board, could then be sent to these examiners for marking and report. There would be no necessity for these examiners to personally attend the examinations, as the answer papers would be returned by examiners to the board for filing and future review if necessary. This method in itself would be a guarantee of fair and effective work on the part of such examiners.

Including this very superficial review of the question of methods of conducting state board examinations, I believe the method at this time employed by the majority of boards to be very defective from the standpoint of accuracy in determining the qualifications of applicants for state license. The difficulties I have enumerated as hindrances to a reformation of method I think could easily be overcome in time. I would emphasize the great importance of this question and suggest to the Council on Medical Education the immediate necessity of furnishing the boards, in the very near future, with a well defined plan for their study and action.

SHOULD LICENSURE EXAMINATION BE IN TWO PARTS, AND HOW SHALL THEY BE CONDUCTED?

Dr. W. J. Means, chairman of the judicial council, Association of American Medical Colleges, followed with a paper entitled "A Plea for a Licensure Examination in Two Parts."

Medical education in the United States is in a transitional stage, and there has never been a time when more activity has been manifested than at the present. The last decade has been made an epoch of phenomenal progress toward higher standards of professional requirements. The methods of teaching are being studied carefully with the view of securing the best results. This educational movement has been brought about primarily by conscientious educators and broad-minded, progressive, unselfish men of the profession, individually and collectively.

Collectively, much credit must be given to the leaders of the American Medical Association for their thorough and admirable organization of the profession, also to the colleges that are members of the Association of American Medical Colleges. Through these great scientific and pedagogic bodies a sentiment has been created for higher professional standards which has been far reaching. Through this activity and sentiment the legislators of the various states of the union have been aroused to the necessity of protecting the public against ignorance and quackery under the guise of legalized practice, hence the enactment of laws governing medical education and medical practice. We need not contrast generations to see evidences of the great work accomplished and in progression. The student of a decade ago knows that the methods of teaching and of practice have radically changed since he received his license to practice the healing art.

RELATION OF LICENSING BOARDS TO MEDICAL EDUCATION.

It is not my purpose to mention the laws of the various states governing medical education and practice. They differ more or less, but none have reached the ideal as yet. It will be sufficient for my purpose now to consider in a general way the relation of the existing examining and licensing boards to medical education. It may be said that in most of the states medical laws take full control of medical education in that they prescribe minimum preliminary educational requirements to begin the study of medicine, the number and length of annual courses, and, finally, a licensure examination to practice. The laws in some cases prescribe the number of teaching weeks and even the subjects that must be taught, the equipment of laboratories and clinical facilities, and then a diploma from the college that complies with these requirements, before an examination for licensure will be granted. The law, therefore, in a measure, makes a medical student a ward of the state. It leaves to the college the privilege alone of instruction. The interval from the time permission to study medicine is given until the finished product presents himself for a license to practice is quite a segment in an educational cycle. It seems to me that it is out of the question for an examining board by a few questions to determine very accurately the proficiency of the applicant, and, in particular, the character of the work done during the college years.

I assume that we are all agreed as to the value of the basic subjects as a foundation for a medical education, and I believe we are all agreed that these subjects should be taught not only theoretically but by actual laboratory experience. Anatomy should be taught not alone from charts, but from the natural body. Chemistry, to make it worth while, should be taught in the chemical laboratory. Histology, bacteriology, pathology and physiology can not be taught theoretically alone if they are to be of any practical value in the prosecution of clinical diagnosis and for preparing students for the practice of medicine and surgery. Therefore, I believe examining boards should look in on the young men to whom they have granted permission to study medicine during their college course, and determine whether they are receiving proper instruction at a time when it will be of the most value in laying the foundation for future practice.

LACK OF KNOWLEDGE OF THE FUNDAMENTALS.

I am satisfied that any one who will take the pains to study the grades given by the different examining boards of the states can not help being impressed with the lack of preparation of students in the subjects taught in the first and second years. To ascertain, if possible, the average grades in the subjects of anatomy, physiology, pathology, bacteriology and chemistry given by the various examining boards, I corresponded with the secretaries from some twenty-five states. My inquiry met with a generous response. From this data collected I have made

a summary that emphasizes this deficiency. The summary includes the results of all examinations in some fifteen states in 1905.

The average grade of those who passed in anatomy was 74. The average grade of those who failed in anatomy was 58.5. The average passing grade in pathology was 78. The average failing grade was 69. The average passing grade in chemistry was 84.5. The average failing grade was 58. The average passing grade in physiology was 80 and the average failing grade was 58. Of the failures, 75 per cent. were re-examined and 50 per cent. of these were passed. I did not consider the grades given in the clinical subjects.

These grades are sufficient to emphasize the fact that the average man licensed to practice medicine is deficient in knowledge in anatomy, physiology, pathology and chemistry, and when we consider the elementary character of the examinations the deficiency is more apparent. How many could have passed if they had been required to make practical tests in the laboratory? How many would have been able to make a bacterial examination for gonococci or tubercle bacilli? How many of them would have been able to prepare a pathologic specimen for microscopic examination? How many would have been able to make Widal's agglutination test for typhoid fever?

REASON FOR THE SOPHOMORIC EXAMINATION.

Again, note the average grades of those who failed, and further note the percentage passed at a subsequent examination. It is a pertinent question to ask where the knowledge was obtained that made it possible for them to pass a second examination. Certainly not in the laboratories of some college, and not under competent teachers, but more than likely from conning quiz compends. The query arises then, what is the remedy? Evidently the examining boards must look after their protégés during the intervening years to see that the foundation is properly laid. It is my contention, therefore, that the undergraduate should be given an opportunity to present himself for examination at the end of his second year's work to ascertain whether he has attained a proficiency in the basic medical sciences, and, if so, to receive credit for the same.

At the completion of the second year, according to the curricula of our colleges, a student is supposed to have completed his class and laboratory work of the subjects that are classed as basic medical studies, such as anatomy, histology, embryology, physiology, physiologic chemistry and bacteriology. If the student satisfies his teachers of his proficiency he will not be required to do any further class work in these subjects, and is privileged to take up the study of the third and fourth years. This is in line with the scheme of education from the grammar department through the high school and college, and is based on graded work from term to term and year to year. Each term and each year is supposed to complete a part or the whole of a study.

In most states the law prescribes four annual graded courses. By this I understand that the schedules must be so arranged that students pass from one year to the next and so on through the course. Medical colleges in compliance with this arrange their curricula, beginning with the subjects of anatomy, physiology and chemistry in the first year, completing them in the second year along with histology, embryology and bacteriology. Then follows the clinical studies in the third and fourth years. The Association of American Medical Colleges prescribes that time credit can not be given a student until all conditions that may have been imposed in a former year are passed off. If this scheme in literary and professional education is good, the state should not only grant the same privilege of intermediary examinations, but should make them obligatory, giving credit on the final licensing examination.

THE NEED OF PRACTICAL EXAMINATIONS.

An examination by the examining board at the completion of the second year can be made more comprehensive than at the end of four years. It should not be theoretical alone, but practical tests should be given in the laboratories. Such an examination would be an incentive in the first place to more thorough teaching in the laboratories, and in the second place would be an incentive to the student to closer application and a higher proficiency. Under the present régime of the state examining and licensing boards there is not much stresss placed on laboratory proficiency. To prove my contention let me call your attention to the method of examining. We grant the questions are fair and comprehensive so far as theory goes, but by what mental process can the examiners determine whether the students have ever looked through a microscope or saw the inside of a laboratory?

Again, teachers will testify how difficult it is to get students to understand and appreciate the necessity of a thorough grounding in the basic studies, and also that they often pass them knowing their inefficiency. If students understood that they would be examined at the close of the second year, not only by their teachers, but by the state examiners, and that a passing grade would be credited on licensure examinations, they would have a purpose in doing good work. Should a student fail in his examination, it gives him an opportunity to go back over the work at a time when it will most benefit him and when he will be forced to do it.

If a student, after having complied with the legal time requirement, fails, it is a most difficult thing for him to go back to the study of his first and second year's work. He spends a few months in conning quiz compends, as suggested before, and then rarely fails on a second trial. I might ask, what is the practical value of such knowledge? The failure of a student to pass an examination at the end of his second year not only forces him to go over the subject again in a proper way, but is a notification to his college to look more closely after the teaching of the studies of the first and second years. Colleges are too prone to pass undergraduates. This is considered true of schools that depend on the tuition of students for maintenance. If a student has passed his first and second year and knows that he will get credit for the same, he will no longer have it on his mind that he must prepare for a technical examination in these studies, and will, therefore, continue his practical work up to the end of the course.

There is also something to be said in favor of the student. Two years and more is a long period between the study of the subjects of the first and second years and his licensure examination. He may forget, and does forget, many of the technical things that he learned during his early years, and these may be the questions asked in a final examination. This fact is recognized by the colleges, and has led to review work of the fundamental studies to prepare their students for examination. It takes the time that should be devoted to clinical subjects of the fourth year. In fact, it becomes, in a measure, a process of cramming for the state boards.

In Great Britain a medical student has to register with what is known as the General Medical Council, and he can not obtain a license to practice medicine until five full academic years after registering, during which time he must produce evidence of having passed all the prescribed examinations. These have to be taken through the course with certain time intervals between the succeeding examinations.

Some of my remarks might be interpreted as a reflection on American medical colleges. I am frank to say that the average grades given above indicate that the majority of American colleges are not giving good practical work in anatomy, physiology, pathology and histology, and this would be more in evidence if practical tests were made. If any teacher or official doubts this statement I would like to ask what percentage of his graduates can make a diagnosis of typhoid fever by laboratory methods? How many of his graduates can make a practical microscopic examination of the blood? How many can make a microscopic examination of the urine that would be of any considerable value? How many can make a bacteriologic examination of tubercle bacilli and gonococci? If the majority can not, then the college has failed to give the proper instruction.

THE REASONS SUMMARIZED.

To summarize my contention for two licensure examinations, one to be held at the end of the second year, the other when the student makes application for a license, I submit:

1. It is only fair to the student that he be given an opportunity to pass an examination in the studies that he has completed in the class and laboratory, and thus be relieved of further anxiety during the two years spent in the study of clinical subjects.

2. If he fails to pass the licensing examination in these studies, it gives him an opportunity to go over them again at a time when he is compelled to do it, and under the direction of competent teachers.

3. With an examination at the end of two years the examining boards will be better able to determine whether the applicant is sufficiently grounded in the fundamental studies and laboratory work for further progress in a medical course.

4. Such an examination would be an incentive to students to do better work, and a suggestion to the colleges to provide proper facilities and qualified teachers.

5. The state examining and licensing boards having prescribed minimum requirements, both as to entrance qualifications and time limits for a medical course, and also equipments

and facilities, should, in the interest of medical education, take note of the work being done in the first two years of a medical course to see and know that students are properly equipped for the third and fourth years.

6. The examination both at the end of two years and for licensure should be made more comprehensive and practical.

7. Examinations made under the conditions herein mentioned would do more toward elevating the standard of medical education in the United States than legislation in any other direction.

8. A re-examination by a licensing board should be permitted only on evidence that the applicant had pursued the study of medicine, and particularly the subjects in which he failed, with competent teachers and under conditions affording proper facilities for practical teaching.

This procedure is not entirely new. It is already in vogue in four states, Virginia, Maryland, Michigan and New York. Oregon some years ago conducted two examinations, but I am informed has now but one. The boards of several other states contemplate asking for a modification of their laws, giving them privilege to examine undergraduates.

To put in practice examinations of undergraduates would require a change in many of the laws now in operation and it would entail extra work on the members of the examining boards. These are, however, matters of little consideration, providing the qualifications of the men licensed to practice medicine are assured.

The inspection of medical colleges as to their laboratory equipments, facilities for teaching clinical medicine, methods of teaching and personnel of teachers would be almost unnecessary. The colleges would be forced to give instruction that would qualify their students to pass examinations made at the proper time and in a practical way.

In bringing the conference to a close CHAIRMAN BEVAN said: In the name of the Council I desire to thank the gentlemen who have presented us with these valuable reports and discussions, and to thank all of you for your assistance and presence here to-day. This is a movement in which we have a common interest. There can be no doubt about the result of this movement in elevating medical standards. It is simply a question of how rapidly it can be done and should be done, and personally I feel that a meeting of this kind is of great value. It certainly has been instructive to the members of the Council. We shall stand adjourned until the next annual conference, and we hope that you will all be with us again at that time.

REPORT OF THE NEW YORK COMMITTEE ON MEDICAL EDUCATION.

A. VANDER VEER, EDWARD D. FISHER, AND WILLIAM FRANCIS CAMPBELL, ALBANY.

Committee on Medical Education from the Medical Society of the State of New York.

[This report was not read at the conference, but is of particular interest in connection with the subjects discussed.]

The Medical Society of the State of New York has been in thorough sympathy and accord with the efforts of the committee on medical education of the American Medical Association to raise the standard of medical education in the United States and to bring about a closer uniformity in entrance requirements and medical curriculums in the different states. The standard recommended by the committee at the Portland meeting of 1905 is exactly the standard which the State of New York has been following for a number of years. When the medical act of 1891, governing the practice of medicine in the State of New York, went into effect, the provisions of the statute were practically similar to the Portland recommendations. In order to work no hardship, however, to medical schools, and not to make the transition in entrance requirements too abrupt, it was necessary for the Board of Regents of this state to modify the entrance requirements and gradually to reach the four year high school standard for entrance to medical schools. Since Jan. 1, 1897, however, a four year high school course or its equivalent gained in examination, has been the requirement for matriculation in a medical school. Even at the present time, however, New York permits conditional matriculation for entrance on the first year's course of medical lectures, on evidence of the completion of three full years of high school work or its equivalent, and requires the fourth year to be successfully made up by the candidate before entering on the second course of medical lectures.

In our opinion the gist of the Portland resolution lies in the first provision of the recommended standard, viz., that the preliminary education be passed on by specially designated state authorities. This seems to us in the light of fifteen years' experience an absolute necessity in the administration of medical statutes. It would be a great mistake to permit faculties of medical colleges to pass on the credentials submitted, for aside from the fact as to whether they were disinterested parties or not, they have not the evidence at hand or the means of obtaining it for properly valuing the weight of secondary credentials which may be furnished from secondary educational institutions in all parts of the world. Neither should this duty devolve on the state board of medical examiners for precisely the same reasons. Under no machinery less than that of a well conducted state education department can all the necessary data be collected for properly judging the standard of educational institutions. The education department of the State of New York has for years been a clearing-house for such information, and the data has been gathered not only by careful and exhaustive examination of the reports and records, but by personal examination and inspection of schools and colleges. New York State has twice had in Europe special inspectors who have carefully examined the various lycées and gymnasia of Europe and who are competent to accurately estimate the comparative value of European and American educational credentials. The constant reference to this body of records and its daily use in passing on credentials submitted by candidates from all parts of the world for entrance to New York professional schools has brought home with particular force to the committee from the Medical Society of the State of New York the absolute necessity of a responsible state authority, preferably the state education department, to pass on these matters. Otherwise your committee feels that the mere provision in a statute of a four year high school course as a preliminary to medical study would be of little value and capable of being greatly abused.

Your committee has also studied with great care "the ideal standard" submitted at the Portland meeting, and while in thorough sympathy with the manifest object of the resolution, viz., the advancement of medical education, we are not yet ready to commit ourselves to the proposition of practically a five year medical course. To insist on a thorough four year preliminary education and a thorough four year medical education is, in our experience, thoroughly abreast of the present day demands, and when executed as rigorously as are these requirements in the State of New York, they have caused some criticism by their exaction. While in the future it may be possible to compel a five year medical course, we see no immediate demand for it and doubt its advisability. Should this preliminary college year be required between the high school and the medical college, its curriculum should undoubtedly embrace more than the subjects of physics, chemistry and biology.

In fact, we are almost disposed to say that should the time ever come when it was deemed advisable that a degree in medicine should be founded on some part of the curriculum of a liberal arts college, it would be more educational and more defensible to require a two years' course in a liberal arts college, or what might be the same requirement, a six years' combined liberal arts and medical education. We are not at present, however, quite sure that the interpolation of a single year devoted to the study of physics, chemistry and biology would produce physicians of materially broader capabilities, or that the special study of these three subjects, such as is given in liberal arts colleges, would practically assist to any great degree in the development of medical practitioners.

In 1904 an amendment to the medical statute of the State of New York was passed permitting the Board of Regents to formulate a course of study which should lead to a combined baccalaureate and medical degree. The object of this amendment was two-fold: First, to induce more college bred men to enter the medical profession by shortening the term of study one year in order to obtain both degrees, and second, to permit this first or preliminary medical year to be carried on in the colleges of liberal arts. The procedure under this provision of the statute has fallen under three distinct heads:

1. Those universities which maintain both liberal arts and medical faculties. There is no problem here, as each university so arranges its curriculum that a student can carry the work of both degrees in seven years, either by accepting the first year of medical work as the fourth year of the baccalaureate course, or by the introduction of the point system of electives, where a certain number of points are necessary for obtaining both degrees, requiring that a certain percentage of the points be gained in the liberal arts course and the balance in the medical course. 2. Those liberal arts colleges which have entered into affiliation with medical schools, whereby the first year of work in the medical school is taken as the fourth year of the baccalaureate course. 3. The establishment of a medical elective in the junior and senior years of the liberal arts colleges, the

successful completion of which will be accepted by medical schools as equivalent to the first year's medical work.

The procedure under this heading is still unsettled. A joint committee has been appointed from the medical schools and the liberal arts colleges of this state to formulate a curriculum which is capable of execution in the liberal arts colleges and at the same time acceptable to the medical schools. There would seem to be no inherent difficulties in the way of the adoption of such a program, and the committee is practically ready to report its plan. Curiously enough, however, it has run against this condition, viz., that medical authorities in other states have expressed their unwillingness to accept this arrangement and have stated that they would be obliged to refuse to recognize the degrees of graduates who pursued this seven-year course. The committee is of the opinion that this is based on a misunderstanding of the exact work required, and that a thorough appreciation of the really advanced standard of medical education which would be brought about by this arrangement would lead to a reconsideration of such decisions. The committee hopes, however, to be able to report in the near future a successful arrangement of such a course.

Your committee also reports that there is now before the legislature of the State of New York, having already passed one house and favorably reported in the other, a bill revising the medical statute passed in 1891, and particularly defining the practice of medicine in accordance with recent decisions of the Supreme Court of this state. The preliminary medical standards are not affected by this bill, except that a minimum of a seven months' term for each medical course is required in place of the obsolete six months in the old law. As a matter of fact, our medical schools have always had at least a seven months' course, and in some schools eight to nine months.

The main points, however, to be gained by the new bill are:

1. A precise definition of the practice of medicine, which we give herewith as follows: "A person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method, to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity or physical condition."

2. A careful revision of the registration and penalty clauses to accord with the practical experience of the last fifteen years, and to further accord with the provisions of the penal code of this state.

3. The abolition of the unwieldy separate examining boards for each medical society, and the substitution of a single board to be appointed by the Board of Regents without reference to any school or practice of medicine. The theory on which this bill was introduced is that it is the duty of the state to fix the requirements for those who are to practice medicine within the state, and that this should be done regardless of the theories of practice and without recognizing any particular school or cult of medicine. In other words, after a candidate has passed the state's scientific licensing test, he is at liberty to practice any form of medicine which he may choose.

Your committee has given much thought to the introduction of a course in our college curriculums, of medical economics and other subjects, referred to in the circular letter, but does not feel able to give this its endorsement at the present time.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Twenty-fourth Annual Meeting, held at Washington, D. C., May 7-9, 1907.

The President, Dr. T. S. DARLINGTON, New York, in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Thomas D. Coleman, Augusta, Ga.; vice-presidents, Drs. Judson Daland, Philadelphia, and Charles Fox Gardiner, Colorado Springs; secretary-treasurer, Dr. Guy Hinsdale, Hot Springs, Va.; member of the council, Dr. Thomas S. Darlington, New York; representative on the executive committee of the eighth congress, Dr. F. I. Knight, Boston; Dr. R. G. Curtin, alternate.

The next meeting will be held in Boston,, June, 1908.

Increase in Death Rate from Cardiac Disease.

DR. T. S. DARLINGTON, in his presidential address, discussed the increasing death rate from cardiac disease, and the source and mode of infection of pulmonary tuberculosis, stating that, while the latter declines in frequency, the former is steadily increasing. He said that a study of the causative factors of this alarming increase naturally suggests the part played by the many so-called features of city life, and one of the most important factors in the relation of mental strain to the production of functional, followed by organic lesions of the heart and subsequently the kidneys. The high wrought, overnervous activity of the modern city business man and the equally strenuous social whirl of the city woman; the mad rush of competition; the bustle, confusion, noise and unrest, so striking in comparison with the *dolce far niente* of the business and social life of a century ago; crowds and hurry; elevated stairs and "rapid fire" elevators; mental strain and physical bankruptcy—all seem so essential. They have come to be considered a striking characteristic of our national life; yet they are so deadly to our individual life that they furnish us with food for deep and earnest thought.

The Search for a Suitable Climate.

DR. S. A. FISK, Brunfield, Mass., gave a résumé of the climates of Minnesota, Colorado, Southern California, Arizona, New Mexico, the hills of New York and New England, and described briefly life on shipboard. Dr. Fisk holds that altitude *per se* is not a producer of hemorrhage.

DR. W. J. BARLOW, Los Angeles, Cal., claimed that patients with heart disease and nephritis do better in Southern California than in the Rocky Mountain region.

DR. CHARLES DENISON, Denver, disclaimed that men are unduly biased by the fact of residence. He pointed out nine men, present at the session, who went to Colorado for their health, and recovered.

DR. W. C. RIVES, Washington, spoke of the advantages of the high altitudes of Switzerland and its markedly tonic influence on healthy persons. He argued from this the undoubted benefit it must confer in diseases of malnutrition.

DR. R. H. BABCOCK, Chicago, stated his belief that although patients may recover at home it is much easier to recover in a well regulated health resort.

Some Notes on Aix-les-Bains.

DR. JOHN W. BRANNAN, New York, gave some personal impressions of Aix, with brief reference to the Virginia Hot Springs. The waters are abundant (6,000,000 liters a day), of high temperature (44 C.), and under very high pressure. The mineral character of this water is not remarkable, but it is a valuable addition to the other treatment instituted. The waters are used in douches, plunges and baths of all kinds, but the specialty is the douche-massage, with which the author has had personal experience. Close supervision and control of the patient are necessary, and an after-cure at an elevated station is advisable. Dr. Brannan thinks that the waters of the Virginia Hot Springs are as valuable as those at Aix.

Effect of Florida Climate on Disease.

DR. FREMONT SMITH, Washington, showed that there is little reason to fear acute disease. Winter residents will find that this subtropical sea climate delays the progress of many chronic diseases. Albuminuria may be cured. Gouty and rheumatic states, with neuralgia and neuritis, almost always improve. Tuberculous patients do not, as a rule, do well. Dr. Smith spoke favorably of the climate of Nassau and its attractive surroundings for the comfort of invalids.

Relative Value of High and Low Altitudes in the Treatment of Tuberculosis.

DR. F. M. POTTENGER, Los Angeles, Cal., recognizes that some tuberculous patients do well at high altitudes and others at low elevations; that tuberculosis is largely due to overcrowding; that high altitude causes greater activity on the part of the lungs and throws great strain on the heart. He believes physiologic rest is better obtained at low elevations and that a high altitude is unnecessary.

Hemoptysis Due to Tuberculosis.

DR. JAMES M. ANDERS, Philadelphia, took up cases occasioned by congestion after bronchial mucosa and lung texture and ulceration or erosion of vessels, or rupture of miliary aneurisms. To the latter class belong the fatal hemorrhages

Dr. Anders has undertaken to determine the frequency of hemorrhage, incidence, age and sex, seasonal influence, clinical peculiarities and treatment. He studied 589 cases of pulmonary tuberculosis; hemorrhage occurred in 197 cases. Dr. Anders found that profuse and fatal hemorrhage was less common in females; less common from October until February. Stimulating cold has a preventive influence. In 75 per cent. of hemorrhages they occurred in the first or early part of the second stage. Dr. Anders quoted Curtin's dictum that a residence far removed from the sea coast is best for patients suffering from hemoptysis; that a rarified, but also a cold, dry aseptic air would be most useful. Hot drinks and alcoholic stimulants must be avoided. Opium was advised for twenty-four or forty-eight hours. Atropin, 1/50 gr., every twelve hours, has been very successful.

Blood Pressure as a Guide in the Treatment of Hemoptysis.

Dr. E. O. Otis, Boston, said that an effort was made at the Massachusetts State Sanatorium to establish a standard of blood pressure for tuberculous individuals. The average for 320 patients was 124 mm. Hg. In men the average was 124 mm., and in women 115 mm.

Dr. Otis advocates, at the onset of the hemorrhage, ice, morphia and atropia subcutaneously, and in some cases nitrite of amyl. Nitrite of soda or nitroglycerin should be used if the blood pressure is high for the individual; if low, ergot or ergotin subcutaneously.

Dr. Delancey Rochester, Buffalo, said that he found the nitrites useless. He depends on purgation, sweating by hot air, hot mustard bath, and steam. He had tried nitroglycerin in solution and obtained a fall of twenty or thirty points with a subsequent rise.

Dr. R. H. Babcock, Chicago, said that excitement raises systolic pressure; therefore rest, morphia and purgation are indicated. In cases in which the pressure is low he would question the advantage of ergot, but would prefer pressure by bandages.

Dr. Charles Denison, Denver, advocated strapping the chest with adhesive plaster.

Dr. F. M. Pottenger, Los Angeles, places a nitroglycerin tablet on the tongue and notes a reduction in the pressure inside of three minutes. Veratrum viride will act in the same manner and the reduction of pressure will continue for over an hour.

Daily Care of Consumptives at a General Hospital as an Aid in Solving Local Tuberculosis Problems.

Drs. A. K. Stone and Cleaveland Floyd, Boston, made a statement of the experiment of the House of the Good Samaritan, Boston, in the care of ambulatory cases of tuberculosis. There was daily medical supervision, outdoor treatment, good food and home supervision. Twenty-five patients were thus cared for with small addition to the administration force of the hospital. The cost per patient was very small, 38 cents per day, and the results were good.

Pulmonary Tuberculosis Under Sanatorium Treatment at Los Angeles.

Dr. W. Jarvis Barlow, Los Angeles, made a report on 200 charity cases treated from 1903 to 1907. The cases were in all stages, the records showing that 92 per cent. were beyond the first stage. There was no family history of tuberculosis in 66 per cent. The prior duration of the disease was a little over two years. The average duration of treatment was over three months. In the 200 cases, 46 1/5 per cent. of those in the second and third stages showed a marked improvement, and many became wage-earners on discharge. All the cases admitted in the first stage were discharged as apparently cured, or with the disease arrested.

Importance of Supervision of Patients After Leaving Sanatoria Apparently Cured of Tuberculosis.

Dr. F. I. Knight, Boston, said that patients with arrested disease often have a little morning cough and tubercle in the sputum. These should be warned to maintain the same care with this which they have learned in the sanatorium, both on account of the danger to others and also to themselves from reinfection. Dr. Knight believes danger lies in idleness subsequent to cure, and outlined various suitable employments for which provision should be made.

Hygiene in Prophylaxis and Treatment of Pulmonary Tuberculosis.

Dr. Richard D. Newton, Montclair, N. J., made some remarks on the relative prevalence of tuberculosis in the lower animals under varying conditions of habit and environment; followed by a brief consideration of some of the predisposing causes of tuberculosis in man other than heredity, and closed with some conclusions from the foregoing as to the method of life best calculated to prevent the occurrence of consumption in man.

Teaching Medical Climatology.

Dr. Guy Hinsdale, Hot Springs, Va., showed a series of sixty slides for a lantern in illustrating lectures on medical climatology.

Heart Clots in Pneumonia.

Dr. Beverly Robinson, New York, said that experimental pathology seems to prove the frequent presence of antemortem clots, although they do not give rise to any distinctive signs or symptoms. In instances in which the presence of heart clot is fairly assumed, an autopsy is often denied. Hence, uncertainty still exists about many cases. Even when an autopsy is made, intracardiac or other changes may be present, which renders the immediate cause of death doubtful. With previously healthy heart and kidneys, the patient will usually survive, if the blood is kept in a condition approximating the normal. This may be done by the frequent and judicious use of saline beverages. Dr. Robinson said that it is very evident that heart clot as an immediate cause of death in pneumonia is not infrequent, and that clinical experience justifies the use of ammonia to prevent and possibly cure heart clot.

Report of the Sharon Sanatorium Covering a Period of Fifteen Years.

This paper, presented by Drs. Vincent Y. Bowditch and Walter A. Griffin, Boston, will appear in full in The Journal later.

Paroxysmal Tachycardia.

Dr. Philip Marvel, Atlantic City, collated some of the recent views advanced as to the probable cause of this condition and reported two cases. He believes that the condition is a neurosis, characterized by a neuro-cardiac storm, and not a heart block. He finds respiratory pressure treatment, applied by the bending forward position, coincident with the close of the inspiratory act, forcibly holding the breath (thus stimulating the vagi), a means of arresting the attack.

Carcinoma of Mediastinum.

Dr. Jay Perkins, Providence, R. I., reported a case of carcinoma of the mediastinum which simulated aneurism of the aorta. The patient, male, 33 years old, had an epidermoid carcinoma and also suffered from pulmonary tuberculosis. The growth occluded the superior vena cava, causing passive congestion and dilatation of the veins of the whole body. Death resulted from rupture of a blood vessel in the lung and subsequent infection.

Dilatation of Heart.

Dr. Thomas A. Claytor, Washington, discussed overstrain, myocarditis, and shock as causes of cardiac dilatation. He believes that the nitrites are especially useful in acute dilatation. Morphin, 1/32 gr., every four to six hours, is beneficial in quieting the nervous system and stimulating the heart.

At the business meeting Dr. James A. Hart read a memorial of the late Dr. S. Edwin Solly of Colorado Springs; Dr. K. G. Curtin read a memorial of Gen. C. H. Alden, U. S. A., and Dr. Guy Hinsdale a memoir of Dr. W. C. Glasgow.

The following papers were also read: "Climate of New Mexico," by Dr. P. N. Carrington, U. S. P. H. and M.-H. S.; "Leishman-Donovan Disease, or Assam Fever," by Dr. Judson Daland, Philadelphia; "Model of a Sleeping Canopy," Dr. Chas. Denison, Denver; "Rôle of Vasomotor Action in Processes of Repair," by Dr. J. M. Taylor, Philadelphia; "Sub-sternal Remittent Cardiac Squeal," by Dr. R. G. Perkins, Philadelphia; "Some Manifestations of Arterial Tension," by Dr. Charles E. Quimby, New York City, and "Importance of Early Detection of Aneurism of Aorta," by Dr. H. E. Arnold, Boston.

AMERICAN GYNECOLOGICAL SOCIETY.

Thirty-second Annual Meeting, held at Washington, D. C., May 7-9, 1907.

(*Concluded from page 1810.*)

SYMPOSIUM ON THE CARE OF THE WOUND AND THE AFTER-TREATMENT OF LAPAROTOMIES.

Method of Closing the Wound.

DR. SETH C. GORDON, Portland, Maine, pointed out the need for using such sutures as can be retained at least two weeks without absorption, as well as the use of suture material which is the least liable to infection.

Comparative Advantages of Catgut and Silver Wire Sutures.

DR. HUNTER ROBB, Cleveland, Ohio, thinks catgut is an almost ideal material, but when it is sterilized short of rendering it brittle, and consequently useless, some few of the inner strands may not be absolutely aseptic; and, in fact, not a few cases of suppuration and even death have been directly traceable to the use of catgut ligatures. The cumol method probably gives the best results, but for the past few years he has had excellent results with the ordinary and chromicized catgut, especially when the smaller sizes are used. When, however, the larger sizes of chromicized catgut are employed, the sutures are not always absorbed, but frequently gradually work their way to the surface of the wound and are then discharged. They are not always sterile. Bacteriologic tests made in his service have shown that the knots and ends of catgut sutures, even when the wound has healed by first intention, teem with bacteria, and he feels sure that chromicized catgut is responsible for many of the skin infections encountered.

He prefers to use for the skin and peritoneum small sizes of sterilized catgut, but for the fascia he believes that silver wire offers advantages over the larger sizes of plain chromicized catgut. An analysis of two series of 100 cases each in which silver wire and chromicized catgut, respectively, were used in bringing together the deep fascia, shows that the relative incidence of infection in the deep fascia occurring after the use of catgut and silver wire, respectively, is as two to one. Moreover, it is noted that when suppuration occurs, it is always larger in amount and extent in the catgut cases than in the infections met with after the use of silver wire. The main objection against the use of silver wire for bringing the fascia together is that one leaves in the wound a substance that may annoy the patient by sticking into the surrounding tissues. This trouble, however, can be averted if the suture is properly applied and the ends are turned over with a pair of thin-jawed hemostatic forceps, so that they form a bell-like end to the suture.

Hernia is not noticed in a single case in either series, but the separation of the fascia and muscle often does not take place within the first few weeks after operation, and yet sometimes, if these patients are examined some months or a year afterward, a smaller or larger protrusion will sometimes be apparent. He does not believe that we should judge of the relative value of the suture material except in cases examined at an interval of six months or a year after operation.

DR. LEROY BROUN, New York, brings together the fascial edges with chromicized catgut, and introduces, at the same time, some safety sutures of silkworm gut at about an inch and one-half apart. These are kept in for two weeks to guard against the opening of the wound by coughing, sneezing or by a sudden jar.

Use of Laxatives in the After-Treatment of Laparotomy.

DR. HENRY T. BYFORD, Chicago, said that some laparotomies are of such a simple nacure that the functions of the abdominal viscera are not materially disturbed thereby and need not be disturbed afterward by medicine. When there has been considerable trauma during the operation, with consequent soreness and inability to endure the pains, he applies an ice-bag to the abdomen rather than to give opiates. The ice-bag and an enema containing 30 grains of chloral will usually alleviate the pain and nervousness and sometimes the nausea without inhibiting peristalsis. He gives laxatives in all but the simplest cases, because in those who do not really need them the bowels are more quickly relieved of the gas, and the patient then feels much better than when not so treated.

Care of Stomach and Bowels; Position and Rest in Bed.

DR. LAPTHORN SMITH, Montreal, does not allow anything whatever to go into the stomach of a patient during the first twenty-four hours. The bowels are moved by enema on the third day and every day thereafter, unless they move naturally. If there is vomiting, calomel is used generally, with bicarbonate of soda. Position depends on the severity of the case. In hemorrhagic cases the foot of the bed is raised; or in septic cases, especially after appendicitis, the head is raised. Rest in bed for three weeks is the safest so as to improve digestion and nutrition. Twenty-one days after operation the patient is allowed to get up and to begin gentle exercise, so that by twenty-eight days she can walk about freely.

Eserin Salicylate as a Prophylactic Against Atony of the Bowels.

DR. HIRAM N. VINEBERG, New York, said that this agent has a beneficial effect when given to a patient before coming out from under the influence of anesthesia in doses of 1/40 of a grain. It is the custom to give ¼ or ⅛ grain of morphin with 1/40 of a grain of salicylate of eserin. He thinks there is less distension of the abdomen after operation following the use of eserin in this manner.

The Incision and After-Treatment.

DR. W. GILL WYLIE, New York, said the location of the incision varies with the internal condition. The method of closure likewise varies according to the site of the incision, and the condition of the bowels due to preliminary preparation.

The After-Care of the Patient.

DR. HERMAN J. BOLDT, New York, said that mobility of patients begins as early as is consistent with the patient's general condition. The greater number of patients may be out of bed with advantage to them within three days after operation. A large number, even those on whom extensive and technically difficult operations have been done, may get out of bed and be placed in a comfortable chair within from twenty-four to thirty-six hours after the operation. A properly adjusted plaster bandage, adhesive, is essential for the safety of the wound.

DR. J. MONTGOMERY BALDY, Philadelphia, said that rest in bed, good hygiene, diet and nursing are the principal factors in the ultimate results. Moderate early getting up after operation is all right for patients in a good general condition, but it is bad for others. There is nothing to recommend getting up in twenty-four or forty-eight hours after an operation. There is nothing to be gained, but much to lose. That prolonged stay in bed increases the frequency of embolism and thrombosis is not true. He admits that a surgical case may be gotten out of bed and home in a week or ten days, but he denies that this is best for the patient, or that this means that convalescence has been more rapid. The aim should not be to get patients home in the quickest possible time, but to give them the best amount of stored-up health and energy with which to successfully meet the future. A patient who has gotten out of bed with health fully restored is surely more competent to meet the necessities of everyday resistance than the one who has been quickly put on his feet with little regard to his general condition.

Prophylaxis of Venereal Disease from the Standpoint of the Gynecologist.

DR. CLEMENT CLEVELAND, New York, said the position of the gynecologist regarding venereal disease is one of greater enlightenment than that of his brother, the general practitioner, because of his greater opportunity of observing it. His responsibility is, therefore, proportionately greater. The responsibility of enlightening the public does not rest with the

medical profession. It is not a medical or sanitary problem merely, as the causes are dependent on social conditions beyond the control of the physician. By constant study and agitation the best methods for reaching the people will be evolved. All medical schools should pay the greatest attention to instruction in venereal diseases and their consequences. To overcome indifference and arouse an urgent public sentiment in favor of the movement against the prevalence of venereal diseases, there is no more powerful argument than the fact that the greatest sufferers from these diseases are innocent women and children. He believes constant preaching of this one fact alone will give more supporters for the cause than all others combined.

He suggested the appointment of a standing committee to report each year, to arrange for papers in symposium, to invite prominent men to read those papers before the society, or in other ways make prominent the vital interest that is felt. By so doing gynecologists will acquit themselves of any charge of inactivity, and have the satisfaction of feeling that they are doing their share in helping on the good work.

Appreciation of the Work of Henry Garrigues.

DR. BROOKS H. WELLS, New York, delivered an oration on Dr. Garrigues in appreciation of his work in introducing asepsis into obstetric practice in America.

Surgery of the Kidney.

The association held a joint session with the American Association of Genitourinary Surgeons. At this joint session the surgery of the kidney was discussed.

DR. GEORGE S. HUNTINGTON, New York, pointed out by means of lantern slides some of the congenital variations of the kidneys and ureters in reference to their development and surgical importance.

DR. LEWIS GREGORY COLE, New York, followed with remarks on the radiographic diagnosis of renal lesions. His talk was accompanied by the projection of lantern slides.

DR. CHARLES H. CHETWOOD, New York, exhibited specimens and presented illustrations of renal lithiasis, of pyonephrotic kidney stone and of renal tuberculosis.

DR. FRANCIS S. WATSON, Boston, spoke on the subject of calculous anuria, with especial reference to bilateral renal calculus, and to the simultaneous performance of bilateral nephrolithotomy in those cases, and to calculous anuria occurring in patients having but one kidney.

DR. HOWARD A. KELLY, Baltimore, discussed the value and method of mensuration in vesical, ureteral and renal work.

DR. GEORGE E. BREWER, New York, considered the pathology, diagnosis and treatment of acute unilateral septic infarcts of the kidney, while DR. GEORGE M. EDEBOHLS, New York, pointed out some of the requirements of up-to-date nephrectomy.

The last session of the society was a joint one with the American Ophthalmological Society, at which the prophylactic and curative treatment of ophthalmia neonatorum was discussed by Drs. Edwin B. Cragin, New York; Lucien Howe, Buffalo; Lapthorn Smith, Montreal; Walter P. Manton, Detroit; F. Park Lewis, Buffalo; Walter M. Green, Boston; Henry D. Fry, Washington; Alvin A. Hubbell, Buffalo, and Seth C. Gordon, Portland, Maine.

Cystic Lymphangioma of the Gastrocolic Omentum.

DR. W. FRANCIS B. WAKEFIELD, San Francisco, Cal., reported the case of a 4-year-old boy who had an enormously distended abdomen. He presented no other symptoms. For at least two years the child's abdomen progressively increased in size. Laparotomy was advised. Abdominal dissection disclosed a multiple cystoma larger than an adult head, which was broadly attached to the greater curvature of the stomach, spreading out over a small portion of the anterior and a greater portion of the posterior wall. The tumor was larger than a man's head and consisted of a number of various sized, thin and clear-walled cyst chambers. The central portion of the neoplasm was occupied by a single cavity which made up the bulk of the cystic mass. Surrounding the central cavity on all sides were numerous smaller cystoid masses ranging in size from that of an orange to that of a pea. The author gave a detailed report of the histologic examination of the walls of the cystoma.

Incision of the Anterior Uterine Wall as the Treatment of Chronic Inversion of the Uterus.

DR. REUBEN PETERSON, Ann Arbor, Mich., said that all efforts at reposition of a chronically inverted uterus must be directed toward dilating and incising the unyielding cervical ring. The constricted cervical ring can be incised from above or below. The abdominal route is no easier and does not give as good results as the incision from below. The uterine wall may be incised anteriorly or posteriorly. The former is preferable. He cited a case of twelve years' standing which was successfully treated by this method, and described in detail the operative technic.

Postoperative Inversion of the Vagina.

DR. PHILANDER A. HARRIS, Paterson, N. J., described a new operation for the cure of this condition. Access to the field of operation is made through a suprapubic median line abdominal incision. The round ligaments are sought and dissected from their imbedments. The vagina is well pushed upward with a staff. A small hole is cut in the vagina on its right side, and another opposite on its left. The mucous membrane of the fundus of the vagina between and about these penetrations is curetted. The right ligament is drawn through the apertures near the top of the vagina from right to left. The left ligament is then drawn through the apertures of the vagina from left to right. The distal end of each ligament is then drawn taut, and sewed as high as possible with catgut to the larger portion of its fellow. After sewing the distal portion of each ligament to the proximal portion of the other ligament, the through-and-through sewing is continued at the fundus of the vagina in such a manner as to repeatedly penetrate the ligaments which it covers.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-Second Annual Session, held at Washington, D. C., May 7-9, 1907.

(*Concluded from page 1809.*)

Pathologic Anatomy of Lymphosarcoma.

DR. W. G. MACCALLUM, Baltimore, studied 8 cases of this condition which he places in two groups. First, those found specially in the mediastinum; second, those originating in the intestine; 5 were in the latter. They are distinguished sharply from Hodgkin's disease by their distribution and their histology, the chief point in the latter being the uniformity of the cells. In some ways lymphosarcoma resembles an infection. He is not prepared to say it is or is not a tumor.

DR. H. A. CHRISTIAN, Boston, thinks the histology of Hodgkin's disease has by some been more sharply defined than it should be, as some of the cases clinically are not thus clearly defined. A recent case in the Massachusetts General Hospital was clinically Hodgkin's disease, but autopsy showed a lymphosarcoma of the mediastinum.

Chylous Ascites and Chylous Pleurisy in a Case of Lymphocytoma Involving the Thoracic Duct.

DR. GEORGE DOCK, Ann Arbor, described the case of a man of 59, who had an abdominal tumor of at least four years' duration. The blood showed a relative lymphocytosis, though the total count was but little increased. Clinically, the case was not an acute lymphocythemia and bore some resemblance to Hodgkin's disease. Autopsy showed a tumor mass in the mesentery and the entire thoracic duct greatly thickened by tumor growth. Lungs, liver, kidney and other organs showed collections of cells which might be called sarcoma, but which were exactly like the findings in leukemia. There had been a chronic empyema before.

DR. W. G. MACCALLUM, Baltimore, said this seemed a borderline case which falls fairly well into the group of lymphosarcomas. He has seen a case of advanced lymphatic leukemia with chylous pleurisy and ascites and enlarged retroperitoneal glands.

DR. ALFRED S. WARTHIN, Ann Arbor, has seen 4 cases of lymphosarcoma and one of large-celled Hodgkin's disease which

became leukemia. He regards them as genetically the same, the cells in all coming from the parent cell of the leucocyte.

Long-Continued Fevers.

DR. HERBERT C. MOFFITT, San Francisco, described in detail the case of a woman of 47 in whom the chief symptom was recurrent fever, with intervals of seven days. The possible diagnoses included liver abscess, syphilis, Malta fever, lymphosarcoma. Autopsy showed many nodules in the liver, two in the spleen, and one gland near the right kidney. Histologically, they were lymphosarcomas.

DR. R. C. CABOT, Boston, found that among the records of the Massachusetts General Hospital for the past four years, 90 per cent. of the fevers lasting more than two weeks were due to one of three affections, namely, typhoid fever, sepsis and tuberculosis.

DR. ALFRED STENGEL, Philadelphia, narrated the case of a young man with continued fever in whom many diagnoses had been made. When he saw him emaciation was extreme and an abdominal mass could be felt. Operation showed retroperitoneal tuberculosis. Another cause of long-continued fever is arteriosclerosis, of which he has seen several instances. Often in these cases fever follows chilliness and malaria may be suspected. Of course, this effect of vascular lesions can not be proved as such, but with changes in the vessels that often occur, fever is perfectly possible.

DR. S. WEIR MITCHELL, Philadelphia, has seen a number of persons with temperature constantly above what we call the normal, and it may be some of the reported cases of fever belong to this class. He has also seen instances of subnormal temperature in the healthy person.

DR. GEORGE DOCK, Ann Arbor, described an obscure case of fever in which operation revealed what was supposed to be carcinoma of the liver. Microscopically, the tumors were shown to be gummas and specific treatment cured the fever.

DR. W. S. THAYER, Baltimore, has seen 2 cases of lymphosarcoma of the liver in which the diagnosis of typhoid fever had been made. In another case carcinoma of the liver gave rise to long-continued fever.

DR. JOSEPH SAILER, Philadelphia, described a case of relapsing fever in which the etiology was not clear. A tumor in the left lower quadrant of the abdomen was finally discovered, and operation revealed a dermoid cyst full of sterile pus. Recovery followed.

Results of Stimulation of Inflamed Pleura.

DRS. JOSEPH A. CAPPS and DEAN D. LEWIS, Chicago, reported experiments on dogs in which they showed that irritation of the pleura by mechanical, chemical, thermal and electrical stimulation caused very little change in blood pressure in the case of normal pleural membranes. In dogs with artificially produced pleurisy the same stimuli gave rise to a marked or even fatal fall in blood pressure. The nature of this reflex is either cardio-inhibitory or vasomotor. The practical point from these findings is that in the case of inflamed pleuræ all irritation should be avoided, whether by aspiration, injection of fluids, or by drainage tubes in empyema. The visceral layer is meant in all instances.

Clinical and Pathologic Studies of Arteriosclerosis.

DRS. W. S. THAYER and M. FABYAN, Baltimore, have studied histologically the radial, mesenteric artery and aorta in 61 persons of various ages. In general, the artery progressively thickens with age. It is therefore, difficult to draw a definite line between the normal and the pathologic radial. The normal radial is palpable if rolled against the bone. An unduly thick radial means either that it has been subjected to an abnormal strain, or it has been unable to resist conditions otherwise regarded as normal.

Cerebral Types of Arteriosclerosis.

DR. ALFRED STENGEL, Philadelphia, described cases in which there occur convulsive attacks, local or general, with or without thrombosis; cases showing stupor and coma; and those with psychic manifestations. Some of these cases are undoubtedly diagnosed uremia, as the latter condition is often difficult to determine accurately. In one case an old man in a comatose condition rapidly improved under stimulation, though the previous history suggested uremia rather than deficient cerebral circulation. In some of these cases terminal uremia may occur.

Further Studies on Experimental Arteriosclerosis.

DRS. I. ADLER and O. HENSEL, New York, in continuation of the work reported last year, have been able to find only 12 positive cases in 90 rabbits treated by numerous methods. They have reached the conclusion that the lesions in rabbits reported by various observers are spontaneous, with possible hastening or augmentation by the injection of drugs, and consequently no conclusions regarding the nature of arteriosclerosis can be based thereon.

Motor Insufficiency Due to Perigastric and Duodenal Adhesions.

DR. FRANK BILLINGS, Chicago, divides these as to cause into those due to infection of the gall bladder, ulcer of the stomach, tuberculous processes in the abdomen and adhesions following surgical operations. The motor disturbances are of two kinds: those, acute, associated with the underlying cause, and those due to retention. In the first the cause is to be treated. In the second, or chronic, the individual and his symptoms must be carefully studied and the treatment proper to that case instituted. One man was cured by treatment directed to the insufficiency after he had had 15 laparotomies to correct the adhesions.

DR. JOHN H. MUSSER, Philadelphia, spoke of the effect of adhesions during or after the course of typhoid fever. Pain is often not a symptom but a motor insufficiency, and vomiting may be extreme. He described a case in which vomiting became a serious condition. Operation showed adhesions pressing on the duodenum and biliary passages; temporary relief was followed by recurrence of vomiting and death.

Lenhartz Treatment of Gastric Ulcer and Hyperchlorhydria.

DR. S. W. LAMBERT, New York, has always been a convert to the starvation treatment of gastric ulcer, but experience in two cases led him to adopt the Lenhartz method. One was that of a man who, after the starvation treatment, developed a typical attack of scurvy; the other was a woman with hematemesis in whom starvation did not check bleeding which became serious; the Lenhartz treatment was then begun and she gradually improved and finally recovered. This was the final result in four other cases treated from the beginning by this method, and in several cases of hyperchlorhydria the same satisfactory outcome resulted. Although he met with no failures in these series this does not mean that the method is infallible; it does warrant the conclusions of Lenhartz regarding its applicability.

DR. B. W. SIPPY, Chicago, said in the treatment of gastric ulcer more attention should be paid to the state of secretion in the stomach between the hours of 10 p. m. and 6 a. m. He has found in many cases that at 1 or 2 a. m. 300 to 400, or even 500 c.c. of corrosive gastric juice can be obtained from the stomach of such patients. This juice prevents healing of the ulcer, and the stomach should be at rest at this time. To avoid its presence he feeds lightly every hour during the day and gives alkalies. Aspiration at 10 p. m. gives relief in some cases.

Active and Associate Members.

The following were elected active members of the association: James Carroll, U. S. Army; H. A. Christian, Boston; Reid Hunt and M. J. Rosenau, Washington; Torald H. Sollmann, Cleveland; A. E. Taylor, San Francisco. New associate members elected are: E. Libman and C. N. B. Camac, New York; J. H. Pratt, Boston; R. D. Rudolf, Toronto; S. McC. Hamill, Philadelphia; Louis B. Wilson, Rochester, Minn.

Officers Elected.

Officers for the ensuing year are: President, Dr. James Tyson; vice-president, Dr. Victor C. Vaughan; secretary, Dr. Henry Hun; treasurer, Dr. J. P. C. Griffith; recorder, Dr. S. Solis-Cohen; member of council, Dr. Simon Flexner.

Medicolegal

Damages for Malpractice Resulting in Bad Arm for Woman—Skill Required of Physicians—Negligence of Patient.

The Court of Appeals of Kentucky, in Dorris vs. Warford, reverses a judgment rendered in favor of the latter named party for damages for alleged unskilful and negligent treatment of her broken arm. The court says that the physician had found both bones broken between the elbow and the wrist, the break of the bones being oblique or slanting, and not square across. He put on a temporary dressing, and told her he would come to her house the next day and put on a permanent dressing. The next day he and another physician took off the temporary dressing and put on a permanent dressing. The arm was much swollen the night before when the physician dressed it, and there was more swelling the next day. The physician visited the plaintiff several times after that, and she went sometimes to his office. Then she went to his office on one occasion and, not finding him there, left a note on his slate saying that she would get another physician. For some weeks after this he did not see her. Finally he was sent for and found the bandage on the arm loose. From that time he treated her, but her arm was curved and was not strong.

The plaintiff claimed that the physician took the dressing off when he ought not to have done so, and that this was the cause of the crooked arm. On his behalf the testimony tended to show that he removed the dressing at her request and on statements made by her to him which would justify a physician in removing the dressing. It was claimed that the physician did not pay as much attention to the arm as he should have done; proof was introduced showing lack of care on the part of the patient.

The jury was instructed that if it believed from the evidence that the defendant failed to exercise ordinary care and skill in treating the patient, and if it further believed that by reason of such lack of care and skill the plaintiff had been damaged, then the jury should find for her such damages as it believed she had sustained not exceeding the $10,000, the amount claimed; and in estimating such damages the jury should consider the bodily pain and mental anguish suffered by the plaintiff and any permanent injury it believed had resulted to the plaintiff from such negligent treatment.

The court holds that this instruction was erroneous in that it did not correctly define the measure of damages. It says that it would be hard to measure in money the injury to a young woman from having a crooked arm, and sentiment would enter into the matter rather than the criterion of damages fixed by law. In lieu of the latter part of the instruction, the trial court should have told the jury that if it found for the plaintiff, the measure of damages was a reasonable compensation to her for the bodily pain and mental suffering, and the permanent impairment of her ability to earn money. Another instruction was erroneous in requiring of the defendant his best skill and ability. The rule is that a physician must use that care and skill which is exercised generally by physicians of ordinary care and skill in similar communities, and the court should have so instructed the jury. When a person employs a physician the law implies an agreement on his part to exercise the ordinary care and skill of the profession. The implied contract goes no farther, and there is no liability on his part if the implied contract has not been broken. It is no defense to the physician that he used his best skill and ability if he fell short of the legal standard, and there is no liability on his part if his care and skill come up to the legal standard.

The Court of Appeals also says that if the jury believed from the evidence that the plaintiff was guilty of negligence in failing to take proper care of herself, or to hold herself in readiness at reasonable times to be treated, and that such failure to take proper care of herself or to hold herself in readiness to be treated was the proximate cause of her permanent injury, and but for which negligence such injury would not have resulted, then the law was for the defendant, and the jury should so find, although it might further believe that the defendant was guilty of negligence in the treatment of plaintiff's arm.

Company Held Liable for Care from Telephone Call.

The Supreme Court of Errors of Connecticut says, in the case of General Hospital Society vs. New Haven Rendering Company, that, on June 1, 1905, at the defendant's place of business in Orange two of its men were severely burned, so severely that one needed hospital care for nine days and the other for 151 days. The officer representing the defendant in the conduct of its business at Orange was temporarily absent. The men were suffering, and, in this emergency, some one in the defendant's office undertook to act for the defendant, and asked, through the telephone, the plaintiff to dispatch an ambulance immediately to the defendant's place of business to convey two men who had been severely burned, to the hospital, saying that the defendant would take care of the expense. The hospital ambulance was sent to the defendant's office, and the men were taken immediately to the hospital.

The defendant did not disclaim its liability and took no steps to notify the plaintiff that it repudiated the act of the person who had assumed to act for it until after both men were discharged from the hospital. After the first man was discharged the plaintiff presented to the defendant a bill for his treatment. Its representative did not then disclaim responsibility, but said that such matters were attended to at the main office at Boston, and that he would submit the matter to the Boston office.

On the trial, after the plaintiff had produced its evidence, the defendant produced no evidence to prove who was in charge of its office at the time of the accident nor to prove that the person who had assumed to act for the defendant was not clothed with authority to so act. In view of these facts, and of all the inferences the court might properly draw from them in connection with the incidents of the trial, the trial court reached its conclusion that the defendant had assumed as its own the assurance of its responsibility for the care of its servants, given from its office to the plaintiff, and on the faith of which the plaintiff had acted, and rendered judgment for the plaintiff. This is affirmed.

The mere fact that the identity of the person telephoning is not recognized does not necessarily exclude a conversation which is in itself admissible.

Duty to Passenger Weak from Recent Operation.

The Court of Civil Appeals of Texas, in Gulf, Colorado & Santa Fé Railway Company vs. Redeker, affirms a judgment for damages on account of sickness and injuries alleged to have been caused to Mrs. Redeker by a train on which she was a passenger being held at Fort Worth, Tex., from 5 p. m. to 8 p. m. It appeared that on July 20 an operation was performed on her for removing a large ovarian tumor, and that on August 20 she started home. The train she took was held under the car shed for the time stated, practically surrounded by box cars, etc., while the weather was very warm and sultry. Mr. Redeker was with his wife, but, having only one leg, was hardly capable of rendering her sufficient assistance in boarding and alighting from the train and, therefore, informed the train porter or brakeman, who was present, that his wife had recently undergone a very serious surgical operation and was weak, and that when they arrived at their destination he must assist her off the train.

The court holds that this was notice to the company, and that the latter having accepted Mrs. Redeker as a passenger under these circumstances, the law required it to exercise a degree of care commensurate with the responsibility thus assumed. The wrongful acts charged constituted actionable negligence on the part of the company amounting to a tort. The company as common carrier of passengers owed Mrs. Redeker the duty to exercise that high degree of care for her personal comfort and safety which a very cautious and prudent person would have exercised under the circumstances. The question was not whether the damage done her entered into the

consideration of the parties in advance, but simply whether it was fairly and directly the result of the injurious acts.

Mrs. Redeker was weak, debilitated and naturally very susceptible to the extreme heat to which she was subjected, and to the injurious effect resulting to her from the negligent delay of the train on which she had taken passage, and failure of the company to notify her sooner of such intended delay. That she would under the circumstances become very much fatigued and probably suffer the nervous shock and resultant injuries which she did in fact experience might reasonably have been expected, and such injuries the court thinks must be regarded as the natural and probable consequences of the wrongful and negligent acts charged against the company.

Damages for Unauthorized Examination of Wound.

The Court of Appeals of Kentucky says, in South Covington & Cincinnati Street Railway Company vs. Cleveland, an action brought by the latter party, who had been injured in a collision with an electric car, that it was alleged that immediately after the accident she was carried into the house of a friend, and while there an inspector of the company, in pursuance of orders to investigate the accident, obtained admittance to the room where she was lying, without invitation or request, and roughly and rudely seized and took hold of her person and examined the wound she had received. For this indignity she asked $2,500. In respect to the conduct of the inspector, a preponderance of the evidence tended to show that the act was committed as claimed. The jury was told that if it believed that the inspector acted in the scope of his employment, and without the request or consent of the plaintiff, placed his hands on her person and examined her wounds, it would find for her in such sum as would fairly compensate her for the mental suffering and sense of shame or humiliation or wounded pride resulting from such action to which she was thereby subjected. The jury awarded her $500 for indignities. The Court of Appeals approves both the instruction and award by affirming the judgment of the lower court.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Bitter Tonics.

H. B. Sheffield, in the *New York Medical Journal*, states that the "simple bitters" fuly deserve their cognomen, since they are certainly bitter and insignificant in their therapeutic properties. The tinctures of gentian, quassia and calumba owe thir medicinal value, he asserts, principally to the alcohol they contain, and their use should, therefore, be discouraged, and if alcohol be indicated pleasant wines prescribed. Of the so-called peculiar bitters the cinchona preparations are the chief representatives. As their disgusting taste can seldom be disguised, they should never be prescribed for young children, unless as an antimalarial measure. In malaria, he says that quinin can best be given by rectum. From one-half to one dram of quinin sulphate or bisulphate and a few grains of salt are mixed with the white of an egg, and by means of a large glass syringe and a wide but short rectal tube the mixture is injected into the bowel. The egg albumin prevents irritation of the intestine and with the salt aids in the absorption of the quinin. Older children should be coaxed to take quinin in freshly prepared capsules. The newer so-called tasteless quinin preparations are also deserving of trial, and children not averse to bitter medicines can frequently be induced to take quinin in solution with syrup of yerba santa or extract of licorice, or in powder form in sweetened chocolate.

The different iron preparations, particularly the official wine and the tincture of the chlorid of iron, may be rendered palatable by the addition of glycerin, syrup of orange and water. Powdered iron goes well with sugar and chocolate.

Anthelmintics.

The chief anthelmintics used against the round worm are santonin, spigelia and chenopodium. Those used against tapeworm are pomegranate, its active principle pelletierin, aspidium, pepo, turpentine and chloroform.

Santonin is best given in the form of a troche or lozenge—trochisci santonini, U. S. P. Hare, in "Practical Therapeutics," states that the physician in writing a prescription for troches of santonin should state clearly that trochisi sodii santoninatis, U. S. P., 1880, are *not* to be sold to the patient. If the physician prefers he may write a prescription for troches. The following is recommended by Hare:

R.	Santonini	gr. v	3
	Pulveris sacchari	3iii	12
	Pulveris acaciæ	gr. viii	5
	Misce bene et adde		
	Mucilaginis acaciæ	gtt. xvi	1
	Aqua, q. s.		

Ft. in troches No. x. Sig.: One or two lozenges as required.

Tyson ("Practice of Medicine") states that the remedy which he has found most useful in treatment of ascaris lumbricoides is santonin in combination with calomel. Powders containing santonin and calomel, 1 or 2 grains (0.06-0.13) of each, may be prescribed rubbed up with sugar of milk. One powder is given night and morning until the bowels are freely moved.

H. B. Sheffield states that santonin and calomel are most efficient vermifuges and are readily taken by children either pure or with a little sugar or chocolate. Their effect, he asserts, is greatly enhanced by enemas of soapsuds and turpentine or a decoction of quassia wood.

Spigelia is an efficient remedy for round worm and is not poisonous if given with care. The patient should be starved for from twelve to twenty-four hours in order that no food in the intestinal tract may protect the worm from the action of the drug. This precaution should be observed before giving any anthelmintic. Hare calls attention to the fact that the anthelmintic should always be followed by a purge, preferably Epsom salts, to dislodge and expel the worm while it is still narcotized. Spigelia is given in the form of the fluid extract. From one-half to one dram (2.0-4.0 c.c.) may be given to a child of 2 or 3 years. The addition of fluid extract of senna makes the drug more efficient and the mixture is not generally disliked by children. The following is recommended by Potter, and also by Wood:

R.	Fluidextracti spigeliæ	3ii	8
	Fluidextracti sennæ	3i	4

M. Sig.: A teaspoonful for a child of from 3 to 5 years.

Chenopodium is best given in the form of the oil—Oleum chenopodii, U. S. P. The dose for a child of 5 is 3 minims (0.18) either on sugar or in an emulsion made of mucilage of acacia. It may be necessary to give this dose three times a day for two days, and it should be followed by a cathartic. In older children the oil may be given in capsules.

Pomegranate (granatum) is seldom used in its crude form. A decoction (unofficial) of the bark is used in expelling tapeworm, and Hare, in "Practical Therapeutics," states that to be effective large doses are necessary. It is prepared by soaking 2 ounces (60.0 c.c.) of bark from the fresh root in 2 pints (1 liter) of water for twenty-four hours and the boiling down to a pint (500.0 c.c.). One ounce (30.0) of this is given at a dose and, if necessary, this is repeated every hour until the whole amount has been taken.

This treatment is very severe, often causing excessive purging and vomiting.

Tyson states that the following combination, recommended by Strümpell, is efficient: Four ounces (120.0 c.c.) of the bark of the pomegranate root are macerated in 1 quart (1 liter) of water for twenty-four hours and then boiled until the amount is reduced to 5 fluid ounces (150.0 c.c.). Then to this are added 75 grains (5.0) of oleoresin of male fern. The whole amount is taken in three or four doses as close together as possible. Tyson also states that thymol in doses of 10 grams (0.65) three times a day in water has been recommended.

Pelletierin, the active principle of pomegranate, is given in doses of from 3 to 5 grains (0.2-0.32), and the tannate is the salt usually employed. Hare states that when pelletierin is used it should always be followed by a purge, preferably castor oil. This drug should be used with great care as serious paralyses have been reported following its use in susceptible individuals.

Aspidium, male fern, is an efficient remedy for tapeworm. The oleoresin is the best form in which to administer it. The patient should be ordered to fast during the day previous to that on which the drug is to be administered, or at least to partake only of a milk diet. One dram (4.0) of the oleoresin may then be given in four doses, one hour apart. This treatment may be repeated, if necessary the next day, and followed by one or two drops of croton oil in emulsion. Castor oil should not be given after aspidium, as it promotes absorption of the drug and so tends to poison the individual. Potter recommends the following combination: Pomegranate, 2 ounces; water, 1 pint; boil down to 7 ounces; 1 ounce of pumpkin seed deprived of outer coats and beaten to a paste with fine powdered sugar. Thirty grains of oleoresin of male fern are made into an emulsion with acacia and the decoction of pomegranate, added to the pumpkin seed paste and flavored with syrup enough to make 9 ounces. One-third of this is administered in the morning after a light diet and a laxative on the previous day. If necessary, the second and third portions may be taken at intervals of three hours. Potter states that the worm should be expelled while the patient is sitting in a tepid sitz bath. This prevents the expelled portion of the parasite being torn from the head by its weight, thus nullifying the treatment.

Hare recommends the following combination:

℞ Oleoresinæ aspidii
Tincturæ vanillæ, āā ..... m. xlv 3
Pulveris acaciæ ..... ℥ss 2
Aquæ ..... f℥i 30

M. Sig.: Take the entire amount after fasting and follow in two hours by a full dose of magnesium sulphate.

H. B. Sheffield recommends the following combination:

℞ Ethereal extract of male fern ..... f℥iii 12
Emulsion of chloroform ..... f℥iv 15
Elmulsion of almond, sufficient quantity to make ..... f℥ii 60

This author states that failure to expel the worm is often due to the fact that an oleoresin is used which is prepared from old male fern.

The following combination has also been recommended:

℞ Chloroformi
Oleoresinæ aspidii, āā ..... f℥i 4
Emulsi olei ricini (50 per cent.) ..... ℥iii 90

M. Sig.: Take at one dose after twenty-four hours' fasting.

Potter states that this combination acts just as well if the male fern be omitted.

Pepo, pumpkin seed, is an efficient tenicide, and its use is not followed by unpleasant symptoms. The outer coat of the seed is removed and an emulsion is made by trituration with sugar and water. Some authorities maintain that the seeds should not be decorticated but that husks and all should be swallowed.

Turpentine may be employed as a vermifuge against tapeworm; it must be given in large doses (℥ss-ii, 15.-60.) and in combination with castor oil to promote its rapid passage through the intestinal canal. Turpentine is an irritant to the kidneys, and as these organs aid in its elimination it must not be given to individuals with any form of nephritis.

A New Percentage Solution Table.

The following table, worked out by Alfred L. Cohn, Ph.D., and published in *Merck's Report*, is accurate enough for ordinary use. The first part gives the number of grains of a given drug to make a given amount of solution of from 0.5 per cent. strength up to 50 per cent. strength. The second part gives the required amounts for proportional solutions, as 1-500, etc. For example, to make one fluid ounce of a 5 per cent. solution, it is merely necessary to dissolve 23.4 grains of the salt or other drug in enough water to measure one fluid ounce. This makes a percentage solution by volume, not by weight.

In the table the number of required fluid ounces is found in the extreme left-hand column, and by following that out the required percentage column is found. The amount of drug stated there is weighed out and to it is added liquid enough to make the total amount measure the number of fluid ounces of solution required.

Quantity of Solution to be made.	Grains of Salt or Drug Required to Make Solutions of Required Percentage Strength					
	0.5 p.c. Gr.	1 p.c. Gr.	5 p.c. Gr.	10 p.c. Gr.	25 p.c. Gr.	50 p.c. Gr.
½ fl. oz.	1.15	2.3	11.7	24	65	151.25
1 fl. oz.	2.3	4.6	23.4	47.9	130	302.5
2 fl. oz.	4.6	9.2	46.8	95.8	260	605
3 fl. oz.	6.9	13.8	70.2	143.7	390	907.5
4 fl. oz.	9.2	18.4	93.6	191.6	520	1210
5 fl. oz.	11.5	23	117	239.5	650	1512.5
6 fl. oz.	13.8	27.6	140.4	287.4	780	1815
8 fl. oz.	18.4	36.8	187.2	383.2	1040	2420
10 fl. oz.	23	46	234	479	1300	3025
12 fl. oz.	27.5	55	280.0	574.8	1560	3630.
16 fl. oz.	36.7	73	374.4	766.4	2080	4840
32 fl. oz.	73.5	146	748.8	1532.8	4160	9680

Quantity of Solution to be made.	Proportional Strength.					
	1 :500 Gr.	1 :1000 Gr.	1 :2000 Gr.	1 :3000 Gr.	1 :4000 Gr.	1 :5000 Gr.
½ fl. oz.	0.46	0.228	0.12	0.075	0.06	0.05
1 fl. oz.	0.91	0.456	0.23	0.15	0.12	0.09
2 fl. oz.	1.8	0.91	0.46	0.3	0.23	0.18
3 fl. oz.	2.7	1.37	0.68	0.46	0.34	0.27
4 fl. oz.	3.64	1.82	0.91	0.61	0.46	0.36
5 fl. oz.	4.55	2.28	1.14	0.76	0.57	0.46
6 fl. oz.	5.46	2.74	1.47	0.91	0.68	0.55
8 fl. oz.	7.28	3.65	1.82	1.22	0.91	0.73
10 fl. oz.	9.1	4.56	2.28	1.52	1.14	0.91
12 fl. oz.	10.92	5.47	2.74	1.82	1.37	1.09
16 fl. oz.	14.56	7.3	3.65	2.43	1.82	1.46
32 fl. oz.	29.12	14.6	7.3	4.86	3.65	2.91

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

May 18.

1 Sanitary Work in the Isthmus of Panama During the Last Three Years. W. C. Gorgas, U. S. A.
2 *A New Type of Ataxia. M. A. Starr, New York.
3 Diagnostic Value of Cystoscopic Examination in Carcinoma Cervicis Uteri. B. S. Barringer, New York.
4 Internal and External Remedies in Urinary Diseases. C. R. O'Crowley, Newark, N. J.
5 Treatment of Malignant New Growths with Escharotics. W. E. Brown, North Adams, Mass.
6 Preoperative Radiation and Surgical Treatment of Cancer. W. J. Morton, New York.

2. **New Type of Ataxia.**—Starr presents a case of ataxia of auditory origin. There were no symptoms of cerebellar disease or of tabes. There had been a gradual atrophy of the cochlear division of the auditory nerve, accompanied by deafness. At the same time there had been an atrophy of the vestibular division of the auditory nerve, cutting off the impulses from the labyrinth which are necessary to preserve the balance.

New York Medical Journal.

May 18.

7 *Diagnosis and Treatment of Acute Intestinal Obstruction. M. Einhorn, New York.
8 *Symmetrical Adenolipomatosis. J. Collins, New York.
9 *Drainage in Operations on Biliary System. H. Lilienthal, New York.
10 *Surgical Treatment of Fibroid Tumors of Uterus, Complicated by Pregnancy. J. Vance, El Paso, Texas.
11 External Hemorrhage in Association with Ectopic Pregnancy. J. Oliver, London.
12 State Regulation of Milk Supply. E. B. Voorhees, New Brunswick, N. J.
13 *A Case of Hydrophobia. F. T. Simpson, Hartford, Conn.
14 *Acute Superior and Inferior Polioencephalitis. J. B. Turner, Philadelphia.
15 Backward and Defective Children. H. Shoemaker, Philadelphia.

7. **Acute Intestinal Obstruction.**—In order to determine the value of the Roentgen ray, Einhorn carried on experiments on frogs. He ligated the intestine and then gave the frog a 10 per cent. solution of bismuth. The strictured place was easily recognized by the fact that the bismuth could not pass beyond it. Einhorn tested the method on the human in a case of chronic obstruction. Twenty-four hours after the administration of the bismuth by mouth there was visible a place in which the intestine was distended and filled with bismuth, and next to it a spot where apparently no bismuth was present

(stenosis) then again intestine with bismuth. A few days later, when the bowel was absolutely free from bismuth, a rectal injection of bismuth was given and then the Roentgen ray showed the same picture as before.

8. **Symmetrical Adenolipomatosis.**—Collins reports five cases of this disorder which came under his observation, and reviews recorded cases.

9. **Drainage in Operations on Biliary System.**—As the result of experience with more than 300 cases, including examples of nearly every known operative procedure on the gall bladder, and its associated ducts, Lilienthal draws the following conclusions: First. The scientific and judicious employment of preliminary drainage in obstructive jaundice will probably lessen the dangers of such steps as may be necessary for permanent cure. Second. This drainage should form the sole object of the surgeon's work until the factor of cholemia has been eliminated. Third. Radical operations in most chronic cases should be postponed until hepatic engorgement and icterus no longer exist.

10. **Fibroids of Uterus Complicating Pregnancy.**—Vance urges that all cases of fibroids complicated by pregnancy should be treated surgically and not obstetrically, and that myomectomy should be done only in suitable cases. Further, he asserts that hysterectomy is indicated in all cases of abortion or miscarriage, which can not be stopped, and when the size of the tumor, pressure symptoms or any other cause endangers the life of the mother.

13. **Hydrophobia.**—Simpson reports a case occurring in a 3-year-old boy. The patient died fifty hours from the manifestation of the first symptom. Antitoxin was not used.

14. **Polioencephalitis.**—Turner gives a very detailed report of one case of this affection.

Boston Medical and Surgical Journal.

May 16.

16 •Treatment of Chronic Diseases of the Heart. T. Schott, Nauheim.
17 •Localized Leucocytosis Associated with Atypical Phagocytic Cells. W. B. Bartlett, Boston.
18 Gastroenteric Obstruction in Early Infancy. (Concluded.) T. M. Rotch and F. T. Murphy, Boston.
19 Treatment of Prostatic Hypertrophy. (Concluded.) J. H. Cunningham, Jr., Boston.
20 Gangrenous Gall Bladder in Umbilical Hernia. F. W. Johnson, Boston.

16.—See abstract in THE JOURNAL, Feb. 16, 1907, page 632.

17. **Localized Leucocytosis.**—The blood condition peculiar to the case reported by Bartlett was the existence of an extraordinary leucocytosis localized to the lobes of the ears and accompanied by certain atypical phagocytic cells. The leucocyte count from the lobes of the ears ranged from 30,000 to 300,000. It varied greatly from day to day and even from hour to hour. Counts from two punctures in the same lobe often varied markedly. Counts from the fingers, toes and top of the ear (where it joins the head) were always within normal limits, the lowest count obtained (top of ear) being 7,600 and the highest (toe) 12,200.

St. Louis Medical Review.

May 11.

21 Serenus Samonicus. H. Barnes, Carlisle, England.
22 Deep Injection of Alcohol in Trigeminal and Other Neuralgias. L. Hauck, St. Louis.
23 Rapid Production of Agar and Agar Slants. J. W. Marchildon, St. Louis.

Lancet-Clinic, Cincinnati.

May 18.

24 Partial Intestinal Obstruction. E. Harlan, Cincinnati.
25 •Danger of Dust as Cause of Tuberculosis. G. Homan, St. Louis.
26 Calomel. F. H. Frost, Lebanon, Ohio.

25.—See abstract in THE JOURNAL, Oct. 13, 1906, page 1230.

Journal of the Michigan State Medical Society, Detroit.

May.

27 American Gynecology. E. T. Abrams, Dollar Bay.
28 Etiology and Prophylaxis of Puerperal Sepsis. J. B. Whinery, Grand Rapids.
29 Symptoms and Diagnosis of Puerperal Sepsis. W. H. Sawyer, Hillsdale.
30 Nonoperative Treatment of Puerperal Sepsis. J. E. Maxwell, Decatur.
31 Surgical Treatment of Puerperal Sepsis. G. C. Hafford, Albion.
32 •Factors in Volitional Control During Labor. J. E. Davis, Detroit.
33 •Version. E. G. Edwards, Grand Rapids.

32. **Volitional Control During Labor.**—Volitional control, according to Davis, is a very important factor in labor, bearing in effect, from almost total inhibition of contractions of the uterus to the violent stimulation attained by the habitue of miscarriages. With proper correlation in all nerve stimuli, no retardation is possible, but with disturbance of the functional inter-relation, of the sympathetic and cerebrospinal systems, by so-called emotional causes, there occurs marked retardation. Davis says that an environment of self-indulgences is most certain to unfit the emotional nature for the task of labor. The majority of patients confined in maternity hospitals are for these reasons best fitted for normal labor.

33. **Version.**—Edwards practices postural cephalic version and has done so for a period of forty-five years, during which, he says, it has seldom failed him. The patient is placed in the Trendelenburg position and by careful manipulation, with two fingers in the vagina, and the other hand over the abdomen, the fetus is pushed back and into the desired position with the head presenting. A number of cases are reported to illustrate the efficiency of the method employed.

Journal of Missouri State Medical Association, St. Louis.

May.

34 •Medical Reformation. J. S. Triplett, Harrisonville, Mo.
35 •Ninety-one Cases of Typhoid in Private Practice, Without Death. W. H. Hays, Hannibal, Mo.
36 Surgery of the Ureter: Trans-uretero-ureteral Anastomosis. N. W. Sharpe, St. Louis.
37 •Indications for Medical Treatment in Diseases of the Biliary Passages. S. P. Child, Kansas City.
38 •Method of Radical Relief of Cases of Deafness Long Abandoned as Hopeless. R. Barclay, St. Louis.
39 •The Physician as a Debtor to the Organized Profession. A. R. Rowe, Poplar Bluff.
40 •Case of Congenital Deformity. G. A. Beedle, Kansas City, Mo.
41 •Relation of Pelvic Diseases to Insanity. N. F. Terry, Springfield.

34. **Medical Reformation.**—Triplett discusses the reforms in medicine, educational and professional, that have been instituted as the direct outcome of the reorganization effected by the American Medical Association some years ago. He says that this reorganization has been effective in advancing medical science, alleviating suffering, limiting and controlling the spread of disease, prolonging human life, and protecting the public against quacks, illegal practitioners and the nostrum evil.

35. **Typhoid Fever.**—Hays' routine consists of the usual preliminary purgation, strictly liquid diet and the liberal use of water for cold sponging whenever the temperature reaches above 102.4 F. Drugs are used as called for by the course of the disease. Hays appears to be a firm believer in the efficacy of intestinal antiseptics.

37. **Disease of Biliary Passages.**—According to Child, the only treatment to be advocated on recognizing the existence of biliary disease beyond the acute catarrhal type, is one of surgical intervention.

38. **Relief of Deafness of Long Standing.**—Barclay says that clinical experience seems to have confirmed the opinion, that in cases of deafness, long abandoned as hopeless, habitual speaking in an abnormally moderated or low tone of voice, associated with better hearing in a noise or noisy place, is an evidence of an immobilization of the outer portion of the auditory conducing mechanism; and, in such cases, is an indication for the employment of surgical measures for its radical relief. He also states that resection of the auditory conducting mechanism, properly done, will radically relieve deafness—no matter of how long standing, or how treated hitherto—proportionally to the distinctness of the following characteristic symptoms, when found together: Habitual speech in an abnormally moderated or low tone of voice, with better hearing in a noise, or noisy place, which are pathognomonic of immobilization of the outer portion of the auditory conducting mechanism.

39. **Physician a Debtor to Organized Profession.**—Rowe calls attention to the need of organization and points out how the present organization of medical men fulfills that need, and how the individual physician, as a participator in these benefits, is a debtor to the organized profession. He urges that

every physician become a member of his county society and thus approve and endorse the general movement of organization.

40. **Congenital Deformity.**—The deformities presented in the case reported by Beedle consisted of absence of the left leg, from about two inches below the knee, and equino varus of the right foot, with absence of toes.

41. **Relation of Pelvic Diseases to Insanity.**—Terry holds views similar to those enunciated by other writers on this subject.

American Medicine, Philadelphia.

April.

42 Value of Drugs Used to Assist Labor. J. E. Davis, Detroit, Mich.
43 Two Cases of Arthritis Deformans in Children. L. E. Holmes, Asheville, N. C.
44 *Restoration of the Perineum. H. Hill, Kansas City, Mo.
45 Mastoid Work for the General Practitioner. J. A. Watson, Minneapolis.
46 Yeasts of the Human Stomach. E. Palier, New York.
47 *Exophthalmic Goiter Following Curettement. A. H. P. Leuf, Philadelphia.
48 *Study of the Blood in Syphilis. T. Watabiki, Tokio, Japan.
49 Chorionepithelioma. A. L. Benedict, Buffalo.
50 *Benign Stenosis of the Pylorus and Duodenum Resulting from Spasm and Scar Tissue and from Abdominal Adhesions. A. Bernheim, Philadelphia.
51 Method for the Determination of B. Typhosus and B. Coli Communis in Milk and Water. H. J. Sommer, Jr., Norristown, Pa.
52 A Patient's Struggle for Dextrocularity. G. M. Gould, Philadelphia.
53 Treatment of Keratitis from Lagophthalmus. L. M. Francis, Buffalo.
54 Hypothesis Concerning Soul Substance Together with Experimental Evidence of the Existence of Such Substance. D. Macdougall, Haverhill, Mass.

44.—See abstract in THE JOURNAL, Jan. 20, 1905, page 223.

47. **Exophthalmic Goiter Following Curettement.**—Leuf reports the case of a woman, aged about 30, who developed exophthalmic goiter of a pronounced type after uterine curettement. She responded indifferently to treatment until potassium bromid was used, with a view to allaying irritability of the nervous system. She improved rapidly after the treatment was changed to sodium salicylate, 15 grains, three times daily. It appears from the report of this case that shortly before the onset of her trouble the patient had suffered from a severe shock, incident to the death from accident of her 3-year-old boy. She had a number of miscarriages following this accident and suffered much from irregular menstruation, pain in the legs and abdomen, chills and sweating. Her condition remained practically the same for a period of nearly two years. At the expiration of this time she was delivered of a living child, and since then she has enjoyed good health.

48. **Blood in Syphilis.**—Watabiki summarizes the more important conclusions of recent writers concerning the characteristics of the blood in various stages of syphilis and details the results of his own observations made on 40 cases of syphilis representing the primary, secondary and tertiary stages.

50. **Stenosis of Pylorus.**—Bernheim reports two cases which he believes prove that not all dilatations of the stomach need necessarily be subjected to surgical intervention. In addition to carrying out the usual dietetic and hygienic measures employed in the treatment of these patients, he gave large doses of olive oil, from 200 to 250 c.c., either by tube or having the patient drink it. In one case he resorted to the use of hypodermic injections of allylsulfocarbamid (thiosinamin), using a 10 per cent. hydro-alcoholic solution. The patient improved rapidly under this treatment.

Archives of Pediatrics, New York.

April.

55 *Use of Living Lactic Acid and Bacilli to Combat Intestinal Fermentation in Infancy. C. H. Dunn, Boston.
56 *Twenty-three Hour Treatment. W. P. Northrup, New York.
57 *Reducing Power of Urine Following the Administration of Hexamethylenamin (Urotropin). I. A. Abt, Chicago.
58 So-Called "Bad Habits" in Children. J. Thomson, Edinburgh.
59 *Foreign Bodies Swallowed or Inhaled by Young Children. T. M. Rotch, Boston.
60 *Lobar Pneumonia with Unusual Temperature. F. Huber, New York.
61 *Primary Intestinal Tuberculosis in Nursing Baby. I. M. Snow, Buffalo.

55. **Lactic Acid Bacilli to Combat Intestinal Fermentation.**—Dunn pasteurized buttermilk, then inoculated it with a pure culture of lacid acid bacilli, allowing the mixture to ripen until the development of the organism had brought about the proper acidity and precipitation of the casein. In the majority of the cases the buttermilk was given only after all ordinary and routine measures had failed. Of 35 selected cases there was evidence of a favorable result in 23; in 3 there was immediate cessation of diarrhea and favorable change in the character of the dejecta, without gain in weight; in 9 no effect was produced. In 14 resistant cases of the fermentative type the buttermilk was first given in the pasteurized form, and after a sufficient trial had demonstrated a failure to improve, the pasteurization was omitted. Immediate improvement followed in each case. In 4 cases of acute diarrhea the only treatment was the administration of unpasteurized buttermilk. No castor oil or calomel, no bismuth or irrigations, and no period of starvation were employed. Two of these cases were successful; one patient improved slightly, and one case was a failure. Dunn says that the only conclusion which may safely be drawn from this study is that the use of living lactic acid bacilli is a harmless method of treatment, and that it may do good in cases of intestinal fermentation. He promises to investigate further and to report later.

56. **The Twenty-three Hour Treatment.**—The twenty-three hour cure or treatment discussed by Northrup consists in living twenty-three out of the twenty-four hours in the best obtainable cool flowing fresh air. The treatment is especially excellent in convalescence from acute illness, in cases of delicate infants and young children not thriving. The quality of cold or cool flowing fresh air is essential. Cold air may be stale. Air may be oxygenated and free of odors and yet be warm. The air should be flowing freely and cold. Cold fresh flowing air has uniformly certain effects on young patients. First they sleep. They remain quiet so long as they are in the open air, and sleep most of the time. The quieting effect is well proved. Second, they take more food and assimilate it better. Patients in the open air rarely catch cold; much less often than those kept habitually in warm rooms. Something depends on the nurse, of course, but in a wide experience with different nurses selected by chance, the patients have rarely caught cold. In the whole winter's experience at Sea Breeze no child has developed pneumonia.

57. **Reducing Power of Urine Following Administration of Urotropin.**—Abt studied this reaction in seven cases and summarizes his findings as follows: 1. The administration of urotropin (hexamethylenamin) will cause the urine to reduce copper solutions after the drug has been administered for some time. 2. Urotropin does not ordinarily cause the reduction of the bismuth test solutions. Such urine has no action on polarized light; it does not show a fermentation test. 3. The continued use of urotropin may give rise to albuminuria, with the presence of blood and casts. 4. Nephritis prevents the reduction of Haines' solution by diminishing the permeability of the kidneys for urotropin. 5. A patient with normal kidneys secreting acid urine will eliminate urotropin very rapidly, and this can be demonstrated by the reducing action of the urine on copper solution.

59. **Foreign Bodies Swallowed or Inhaled by Children.**—Ten cases are reported by Rotch. The objects swallowed or inhaled were a tin whistle, a hook, a safety pin, half a peanut, an ordinary pin with a pearl head, a feather, and a piece of the china arm of a doll. One of the children swallowed three safety pins. In most of the cases the objects swallowed were passed in the stool or vomited, and those that had been inhaled were expectorated.

60. **Unusual Temperature in Pneumonia.**—In a typical case of lobar pneumonia seen by Huber, occurring in a 17-months-old boy, the evening temperature reached 107 F., with a decided fall in the morning. Aside from the peculiar and unusual temperature range, the progress of the case was uneventful.

61. **Primary Intestinal Tuberculosis.**—Snow reports two cases occurring in one family. The older of the patients, one year of age, died after an illness of six days. The younger one lingered for two months. There was no tuberculous heredity. The parents, relatives and house servants were well, and the nourishment, breast milk, was proved by inoculation experi-

ments to be free of tubercle bacilli. A trained nurse was in attendance at the second confinement. At the time she was in poor health and coughed frequently. After a month's stay she went home, and soon afterward tubercle bacilli were found in her sputum and tuberculous lesions were discovered in her lungs. Snow says that there is no doubt that the nurse infected both babies by prolonged personal contact. A postmortem held on the youngest child showed conclusively that it was a case of primary intestinal tuberculosis. It was also ascertained that a baby that the nurse had cared for nine months before died of bronchial pneumonia soon afterward.

Western Medical Review, Omaha, Neb.

April.

62 *Congenital Umbilical Hernia. S. S. Wilson, Nebraska City.
63 Corneal Ulcer and Its Treatment. F. E. Franchere, Sioux City, Iowa.
64 *Contusions of the Abdomen. C. L. Mullins, Broken Bow, Neb.
65 Retrodisplacements of the Uterus. C. W. Pollard, Omaha.
66 Obstetric Technic. J. R. McKirahan, Minden, Neb.
67 Atrophy of the Mucous Membrane of the Stomach. H. L. Akin, Omaha.

62. **Congenital Umbilical Hernia.**—In the case reported by Wilson the sac of the hernia was found to contain the entire small intestine and the cecum firmly united by adhesions. The child was operated on, when only three hours old, and made an excellent recovery.

64. **Contusions of Abdomen.**—Mullins reports four cases in which he made careful studies as to the occurrence of pain and tympany. One of the patients refused operation and died.

Journal of the South Carolina Medical Association, Greenville.

April.

68 *President's Address of the South Carolina Medical Association. T. P. Whaley, Charleston.
69 *Surgical Treatment of 150 Cases of Fibroid Tumor. S. W. Pryor, Chester.
70 *Flies. W. H. Chapman, Whitney.
71 Congenital Malformation of the Brain, with Report of a Case of Encephalocele. H. L. Shaw, Fountain Inn, S. C.
72 *Common Interests of Physicians and Druggists. G. W. Evans, Anderson.
73 Sunstroke Therapeutics. W. C. Abbott, Chicago.

68.—See abstract in THE JOURNAL, May 11, 1907, page 1625.

69. **Fibroids of Uterus.**—Of the 150 operations for fibroids done by Pryor only two were emergency operations called for by the breaking down of the fibroid tissues. There were three pedunculated and seven fibrocystic tumors. The others were subserous and subperitoneal. There were four fatalities: one from secondary hemorrhage, due to slipping of the ligature; one from puncture of the uterus, which passed unnoticed; one from incompetent nursing, and one from sepsis.

70. **Flies.**—Chapman discusses the part played by flies in the dissemination of infectious diseases.

72. **Common Interests of Physicians and Druggists.**—Evans pleads for harmony between the two professions. The druggist should not do any counter prescribing and the physician should give the druggist credit for being able to compound any prescription, instead of calling for some proprietary preparation and sometimes for a nostrum. The druggist should not infringe on the rights of the physician, nor should the physician impose on the druggist.

American Journal of Urology, New York.

May.

74 *Tuberculosis of the Testicle. E. L. Keyes, Jr., New York.
75 Tuberculosis of the Urethra, Seminal Vesicles, Prostate and Bladder. A. Mitchell, Portland, Me.

74. **Tuberculosis of Testicle.**—Keyes analyzes 100 cases of tuberculosis of the testicle. In 71 per cent. tuberculosis was first observed between the ages of 15 and 34, while in 65 per cent. the testicle was first attacked between these ages. In 49 cases there was no evidence of any previous tuberculosis, when the testicle first enlarged, while in 36 cases there were more or less ancient foci of the disease elsewhere in the body. Tuberculosis of the lung, preceded invasion of the testicle 15 times; bone or joint tuberculosis, 8 times; renal tuberculosis, 11 times; active prostatic or vesicle tuberculosis, 13 times; inguinal adenitis twice, and fistula in ano twice. The onset was acute in 34 cases; chronic in 34. Breaking down occurred in 76 cases. Keyes says that epididymectomy is the radical operation of choice, unless there is hyperacute and generalized epididymo-orchitis, or unless the testicle is destroyed by suppuration. He says that many patients permit the removal of one testicle in the hope that the disease is confined to the one organ, and may be eradicated. This hope is utterly vain, inasmuch as relapse on the opposite side almost inevitably occurs.

Texas State Journal of Medicine, Fort Worth.

April.

76 *Malignant Tumors of the Orbit. E. H. Cary, Dallas.
77 *The Sequelæ of Diphtheria. E. D. Capps, Fort Worth.
78 *Gunshot Wound of the Eye. F. J. Hall, Dallas.
79 Glandular Tuberculosis Successfully Treated by Roentgen Ray. E. M. Rabb, San Antonio.
80 Fibrinous or Pseudomembranous Bronchitis. S. R. Cates, Abilene.
81 Public Hygiene. C. A. Gray, Bonham.

76. **Malignant Tumors of Orbit.**—Cary reports five cases, three of small round-celled sarcomas, one of epithelioma of the conjunctiva, and one of epithelioma of the postnasal space.

77. **Sequelæ of Diphtheria.**—Capps reports three cases of paralysis following diphtheria. In one case there was complete paralysis of the ciliary muscle and a paresis of the internal and superior recti muscles. In the second case there was paralysis of the soft palate, and in the third case there was paralysis of accommodation also of the pupillary reflex, and later a paresis involving nearly every muscle in the body.

78. **Gunshot Wounds of Eye.**—In the case reported by Hall the injury was the result of the discharge of a shotgun, several paces distant from the victim. The patient was blind for five months, receiving in the meantime 15 grains of potassium iodid daily. After the fifth month, vision in the left eye began to return and continued to grow better until it is now practically normal. The shot is still behind the globe.

St. Paul Medical Journal.

May.

82 *Dry Sterilized Pyoktannin Catgut. E. Boeckmann, St. Paul, Minn.
83 *Rational Treatment of Septic Peritonitis. E. M. Lundholm, St. Paul.
84 The Popular Fear of the Contagiousness of Tuberculosis. H. L. Taylor, St. Paul.
85 Treatment of So-called Incurables. B. Foster, St. Paul.
86 *Orthopedic Conditions Causing Sciatica. A. J. Gillette, St. Paul.

82. **Dry Sterilized Pyoktannin Catgut.**—Boeckmann reviews the preparation of catgut for surgical purposes, especially the dry sterilized pyoktannin catgut, which he says is non-irritating, non-poisonous, sterile and antiseptic, meeting all the requirements in every way.

83. **Treatment of Septic Peritonitis.**—Lundholm advocates placing the patient in the half-sitting position, operating, unless the patient is apparently beyond help or on the way to recovery; lavage of the stomach, when no operation is done; saline hypodermoclysis; rectal feeding and making no attempt to move the bowels.

86. **Orthopedic Conditions Causing Sciatica.**—Gillette found a number of conditions which caused sciatica. For instance, several cases of severe flatfoot after the arch was restored were relieved of the sciatica. One patient with very severe sciatica was cured after a proper shoe was adjusted to relieve a Morton's foot. In another case a painful heel caused sciatica. Varicose veins, popliteal bursitis, tumor of the pleural region, spondylolisthesis, postnephritic abscess, lateral curvature of the spine, sacroiliac joint disease and tuberculous disease of the lower spine were observed by Gillette as causes of a previously intractable sciatica.

University of Pennsylvania Medical Bulletin, Philadelphia.

March-April.

87 *Endemic Occurrence of Carcinoma and Inoculability of Tumors. L. Loeb, Philadelphia.
88 *Internal Hydrocephalus. W. G. Spiller and A. R. Allen, Philadelphia.
89 Abnormal Contraction of the Eyelids in Association with Movements of the Jaws. W. C. Posey, Philadelphia.
90 Peculiar Types of Ganglion Cell Degeneration. D. J. McCarthy, Philadelphia.
91 *Ganglion in Flexure of the Elbow. A. P. C. Ashhurst, Philadelphia.
92 *Four Cases of Primary Cancer of the Gall bladder. L. W. Johnson, Philadelphia.

87. **Carcinoma.**—Loeb makes a further report on the endemic occurrence of cancer in mice and on the inoculability of tumors. His observations suggest that hereditary transmission of certain predisposing conditions from parents to offspring is one

of the factors causing the so-called endemic occurrence of cancer among animals. He also found that original slowly growing tumors may easily be inoculable and that the energy of growth of the original tumor is only one of the factors which determine the degree of inoculability of a tumor.

88. **Internal Hydrocephalus.**—Spiller and Allen report two cases of internal hydrocephalus, one resulting from occlusion of the aqueduct of Sylvius. The second case was one of intense congenital hydrocephalus without occlusion of the aqueduct. The child lived to be a year and a half old. The cause of the hydrocephalus in his case could not be determined, but the condition seemed to have been a congenital malformation.

91. **Ganglion in Flexure of Elbow.**—Ashhurst adds one case of this kind to the four cases thus far reported in the literature.

92. **Primary Cancer of Gall Bladder.**—Johnson analyzes thirty-three cases of undoubted primary cancer of the gall bladder reported in the literature and adds four cases studied by him.

Archives of Ophthalmology, New York.

January.

93 Obstruction of Central Retinal Vein. F. H. Verhoeff, Boston.
94 A Dissecting Spatula. O. Landman, Toledo.
95 Enucleation of the Eye with Cocain Anesthesia. E. K. Ellis, Boston, and H. G. Langworthy, Dubuque, Iowa.
96 Case of Metastatic Carcinoma of the Iris. I. F. Proctor, Boston.
97 Case of Bilateral, Slow, Painless Hypertrophy of the Lachrymal Parotid Submaxillary and Sublingual Glands. J. Dunn, Richmond.
98 Case of Congenital Staphyloma of the Cornea. J. Runte, Würzburg.

Texas Medical News, Austin.

March.

99 Honorary President's Address of American International Congress on Tuberculosis, November, 1906. A. N. Bell, Brooklyn, N. Y.
100 Duty of the Government to Its People. F. E. Daniel, Austin.
101 *Mechanical and Chemical Effect of Milk on the Human. A. E. Gue, Detroit.

101.—This article has also appeared in the *Colorado Medical Journal*, February, 1907, in the *Milwaukee Medical Journal*, March, 1907, and in the *New England Medical Monthly*, April, 1907.

Philippine Journal of Science, Manila.

March.

102 *Filaria Philippinensis and Its Development in the Mosquito. P. M. Ashburn and C. F. Craig.
103 Paragonimiasis in the Philippine Islands. W. E. Musgrave.

102.—A preliminary report on this subject appeared in the *American Journal of Medical Sciences*, September, 1906, and was abstracted in THE JOURNAL A. M. A., Oct. 27, 1906, page 1416.

Wisconsin Medical Journal, Milwaukee.

April.

104 Symptoms and Diagnosis of Acute Intestinal Obstruction in Adults. J. D. Madison, Milwaukee.
105 Acute Intussusception in Infants. A. W. Myers, Milwaukee.
106 Conditions Simulating Intestinal Occlusion Due to Mechanical Obstruction. W. Ackermann, Milwaukee.
107 Pathology of Acute Intestinal Obstruction. V. H. Bassett, Wauwatosa.
108 Exudations. W. C. Abbott, Chicago.
109 Obstetric Responsibility During Pregnancy. W. F. McCabe, Beloit.

Annals of Gynecology and Pediatry, Boston.

April.

110 Obstetric Problems from the Standpoint of the Surgeon. F. D. Donoghue, Boston.

Fort Wayne Medical Journal-Magazine, Indianapolis.

April.

111 Amputations. M. F. Porter, Fort Wayne, Ind.
112 Palatable Medication. H. B. Sheffield, New York.

United States Naval Medical Bulletin, Washington.

April.

113 Gross Pathology of Samoa. A. M. Fauntleroy, U. S. N.
114 Preliminary Note on Flagellates. H. W. Smith, U. S. N.
115 Case of Tropical Febrile Splenomegaly. H. W. Smith, U. S. N.
116 Tinea Tropica Circinata. G. F. Freeman, U. S. N.
117 Dengue and Influenza in the Tropics. E. R. Stitt, U. S. N.
118 Case of Aneurism of the Abdominal Aorta. H. A. May, U. S. N.
119 Case of Adams-Stokes Disease. P. T. Dessez, U. S. N.

Journal of Nervous and Mental Diseases, New York.

April.

120 Diagnostic Value of Lumbar Puncture in Psychiatry. J. L. Pomeroy, New York City.
121 Case of Hysterical Mutism. J. K. Mitchell, Philadelphia.
122 Symptoms Simulating Brain Tumor Due to Obliteration of Longitudinal Lateral and Occipital Sinuses. C. E. Riggs, St. Paul.

Bulletin of the American Academy of Medicine, Easton, Pa.

April.

123 What Can the Organized Medical Profession Do to Aid in the Suppression of Quackery. H. W. Cattell, Philadelphia.
124 The Atypical Child—Its Instincts and Moral Status. W. H. Groszmann, Plainfield, N. J.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 4.

1 *Operative Treatment of Fractures. W. A. Lane.
2 *Diverticulum of the Esophagus. B. Pollard.
3 Nervous Degeneration and Regeneration. W. D. Halliburton.
4 *Severe Compound Fracture of the Skull. W. P. McEldowney and J. W. Cousins.
5 *Subcutaneous Injury of the Pancreas. G. H. Cowen.
6 Retroperitoneal Sarcoma of Douglas's Pouch. C. F. Walters and I. W. Hall.
7 *Acute Pelvic Abscess Followed by Acute Obstruction. E. Leach.
8 Peculiarities of the Tongue in Mongolism and Tongue-sucking in their Causation. J. Thomson.
9 Accidental Rashes of Varicella. J. D. Rolleston.
10 *Merycism or Rumination in Man. J. G. Millar.
11 *Diaphragmatic Hernia. W. Hunter.
12 *Congenital Malaria. R. U. Moffat.
13 Fracture of the Lachrymal Bone with Perforation of the Lachrymal Sac. C. M. Beadnell.
14 Calcium Chlorid in Hemorrhage. A. S. Green.
15 Enterospasm Caused by Lead Poisoning. H. R. Wilson.

1. **Operative Treatment of Fractures.**—Lane discusses the surgical treatment of mal-united fractures of the femur and reports one case as a basis for his remarks.

2. **Diverticulum of Esophagus.**—Pollard reports a typical instance of the most common form of diverticulum of the esophagus, that which gives rise to the most distressing symptoms, and for which surgical intervention is most commonly required. It arises in the middle line, posteriorly, at the junction of the pharynx and the esophagus. The patient was a woman, 45 years of age. The existence of the pouch was recognized five and a half years before it was removed. Its capacity was nine fluid ounces. Its position was registered by radiography and its removal was very simple. The patient made a quick and complete recovery.

4. **Compound Fracture of Skull.**—McEldowney and Cousins emphasize the value of utilizing scales and small fragments of bone in extensive fracture of the skull, for the purpose of securing the development of a sound and thick cicatrix. They claim that the performance of secondary osteoplastic operations for the closure of large openings ought to be limited to cases in which persistent headache and other severe head symptoms are present, and in which there is evidence that these disorders can be attributed to the injury. In the case reported by them five square inches of broken fragments were removed at the time of the operation, but the injury extended over a much larger area, for all round the margin of the fracture the bony edge was broken and depressed. In closing the wound the fractured pieces were elevated into position, the lacerated dura mater was lightly placed over the exposed convolutions and fixed by a few catgut sutures, at the same time all the scales and little fragments of bone adhering to it and to the periosteum were carefully preserved, and after trimming the contused and injured skin the flaps were drawn accurately together with another layer of fine stitches and protected by three gauze drains. In this way a number of small bone grafts were introduced into the opening and in becoming ossifying centers they added greatly to the formation of the firm cicatrix.

5. **Injury of Pancreas.**—In the case reported by Cowen, the diagnosis was not made before operation. When the abdomen was opened the hemorrhage from the region of the pancreas was so severe as to obscure the source of the hemorrhage, and the only thing that could be done was to trust to gauze pressure. Accordingly, 12 yards of gauze were packed firmly against the pancreas, the end of the gauze being brought out of the wound and the abdomen was then closed. The wound healed up fairly well, except for a sinus, from which was discharged daily six to eight ounces of clear fluid. This fluid irritated the skin considerably, so that the patient was fitted

with an abdominal belt, to which was fixed a celluloid flask, with a small rubber tube leading into it from the sinus, thus conveying the juice away without contact with the skin. The patient was still wearing this appliance with comfort a year and a half after the operation.

7. **Pelvic Abscess Causing Intestinal Obstruction.**—Leach reports a case of probable carcinoma of the left ovary, to which the bowel was bound down by numerous dense adhesions, giving rise to obstruction.

10. **Merycism.**—Millar reports one case of this interesting affection.

11. **Diaphragmatic Hernia.**—Hunter records two cases of diaphragmatic hernia, occurring in stillborn children. In one case the defect in the diaphragm was in the right side, in the other on the left side. In the first case part of the stomach, the greater part of the small intestine, the omentum, and a fold of the large bowel constituted the hernia. In the second case the entire stomach, the majority of the folds of the small intestine, a large loop of the large intestine, the omentum and the spleen had passed into the left pleural cavity.

12. **Congenital Malaria.**—In Moffat's case, the mother of the child suffered from malaria during the early months of pregnancy.

The Lancet, London.

May 4.

16 Nervous Degeneration and Regeneration. W. D. Halliburton.
17 Cerebrospinal Fever. C. Wall.
18 Opsonic Power of the Serum with Reference to the Meningococcus of Cerebrospinal Fever, Occurring in the Belfast Epidemic. T. Houston and J. C. Rankin.
19 Case of Osteitis Deformans. R. Waterhouse.
20 Case of Primary Sarcoma of the Liver in Child Aged Four Months. E. W. S. Carmichael.
21 Life Cycle of the Parasite of Sleeping Sickness. J. E. Salvin Moore and A. Breinl.
22 *Effect of the Exposure to Tobacco Smoke on Growth of Pathogenic Germs. M. B. Arnold.
23 *Use of Animal Blood Serum in Surgery. W. Stuart-Low.
24 Balneologic Treatment of Urinary Diseases. (Concluded.) O. Kraus.

22. **Effect of Tobacco Smoke on Pathogenic Micro-organisms.**—Arnold found by experimentation that the smoke from tobacco is bactericidal, that is, tobacco smoke as drawn into the mouth, is probably detrimental to the growth of some pathogenic organisms, but not more, indeed rather less so, than smoke from other sources. The bacillus of diphtheria was always markedly affected. Sometimes it failed to grow at all, but in some cases there was a slight growth. This was the case both with the tubes smoked from tobacco and with those smoked from hay. The typhoid bacillus grew, but very much less than in the control tubes. In some instances there was no macroscopic growth at the end of twenty-four hours. The *Bacillus coli communis* grew fairly well though distinctly less than the control tubes. The *Staphylococcus pyogenes aureus* was hardly affected, except in one experiment with smoke from hay. In the experiment made with a streptococcus no growth took place in the smoked tubes.

23. **Use of Animal Blood Serum in Surgery.**—Stuart-Low believes that normal blood serum is the best substance and the natural substance for perfect and rapid repair of wounds. To increase the amount of it in and about healing parts, he employs animal blood serum in irrigating and dressing wounds.

Journal of Obstetrics and Gynecology of the British Empire, London.

May.

25 Three Cases of Successful Pubiotomy. M. J. Gibson.
26 *Advisability of Removing the Cervix in Performing Hysterectomy for Fibromyomatous Uterine Tumors. J. D. Malcolm.
27 *Induction of Labor in Prolonged Pregnancy. R. G. McKerron.
28 Case of Delivery by Pubiotomy. E. H. Tweedy.
29 *Case of Supposed Recurrence after Vaginal Hysterectomy for Cancer of Cervix. C. H. Roberts.
30 Unusually Large Adeno-Fibromyomatous Polypus of the Cervix Uteri, Simulating Malignant Growth. J. B. Hellier.
31 Case of Paralysis of Intestines with Regurgitant Peristalsis Following Delivery. R. Jardine.
32 Case of Subcutaneous Emphysema During Labor. R. Jardine.
33 Case of Suppurative Ophthalmitis After Labor. R. Jardine.

26. **Advantages of Total Hysterectomy.**—Malcolm urges that in performing hysterectomy, excision of the cervix should be undertaken whenever there are no special reasons against it.

27. **Prolonged Pregnancy.**—McKerron summarizes his paper as follows: 1. Pregnancy is unduly protracted in about 3 per cent. of cases. 2. The condition is associated with danger to the child from (a) placental changes, (b) prolonged or difficult delivery. 3. It is unfavorable for the mother from (a) excessive distension, which may lead to subsequent atony of the abdominal muscles and permanent enlargement of the abdomen; (b) difficult or obstructed labor; (c) uterine inertia with consequent liability to postpartum hemorrhage. 4. The dangers to mother and child can and should be avoided by the induction of labor. 5. This should not be done as a matter of routine, but only when there is satisfactory evidence that pregnancy is prolonged, and that its further continuance may lead to serious difficulties.

29. **Simulated Recurrence of Cancer.**—In the case reported by Roberts, the original growth in the cervix was an atypical squamous-celled carcinoma, while the recurrence was not malignant at all, but consisted of fibrous tissue, covered with granulations, the whole forming a papillomatous mass. He urges that supposed recurrences should always be subjected to microscopic examination, as they may be mistaken for cancer.

The Practitioner, London.

May.

34 Heartblock. G. A. Gibson and W. T. Ritchie.
35 Fractures About the Elbow Joint. A. Carless.
36 *Use of Opium in Acute and Chronic Diseases. I. B. Yeo.
37 Indications for the Use of Opium in Acute Diseases. R. Stockman.
38 *Chronic Morphinism. W. E. Dixon.
39 Hypertrophy of Pylorus in Adults and Its Treatment by Opium. N. Nelld.
40 Indications for the Use of Opium in Acute Disease. H. S. Sandifer.
41 Opium in Acute Diseases. A. Bousfield.

36. **Use of Opium.**—Yeo says that the best single test of the judgment and clinical capacity of a physician is his skill in the use of opium, because the greatest caution is needed in its use and dosage, especially in the hypodermic use of morphin.

38. **Chronic Morphinism.**—Dixon advocates the gradual withdrawal of the drug in all cases, except when only two or three grains are consumed in twenty-four hours, when sudden withdrawal is permissible.

Bulletin de l'Académie de Médecine, Paris.

42 (Year LXXI, Nos. 11-13, pp. 367-416.) *Disturbances in Balancing Sense. (Syndrome vestibulaire.) F. Raymond.
43 (Nos. 14-16, pp. 417-452.) *Neoplastic Form of Inflammatory Tuberculosis. (Lipomes d'origine tuberculeuse.) A. Poncet and R. Leriche.
44 *Serotherapy of Dysentery. (Sérothéraple de la dysentérie bacillaire.) Vaillard and C. Dopter.
45 Toxicity of Cultures of Ray Fungus. (Toxicité des cultures d'actinomyces.) Id.
46 (No. 17, pp. 453-496). *Syphilis in the Army. (La syph. dans l'armee. Prophylaxie.) E. Delorme.
47 Plea for More Extensive Concerted Action in Campaign against Tuberculosis. (L'office antituberculeux.) A. Robin.

42. **Syndrome from Paralysis in the Vestibule of the Ear.**—Raymond has been studying the "sixth sense"—the balancing sense—and the syndrome induced by disturbances in the organ of this sense, the vestibule of the ear. The "vestibular syndrome" is the manifestation of a lesion in the vestibular branch of the auditory nerve. Ménière's vertigo is the result of excitation of the vestibular apparatus, while the vestibular syndrome is the result of paralysis of this apparatus. When the functioning of the labyrinth is defective it is difficult to keep from losing one's balance, even when there is no actual vertigo. A small platform, suspended a little above the floor and turning on a central axis, is used to study the functioning of the vestibule. The individual to be tested seats himself on a chair on the platform, his back in a line with the central axis, his eyes bandaged. The platform is then gently turned on its axis. A normal individual recognizes that the platform is being turned, and can tell the direction. After one or two revolutions the platform is arrested, when the normal individual will feel as if the platform were still turning, but in an opposite direction to the first revolutions. This is the normal physiologic sensation, and is explained by the behavior of the fluid in the vestibule, as is shown by a diagram. In case of a lesion in the vestibule the individual is liable not to perceive the motion of the revolving platform, or it may seem to him that the floor is sinking away under him. The syndrome observed will even indicate the exact nature of the lesion, as Raymond describes, with the details of two cases.

43. **Inflammatory Tuberculosis Assuming the Neoplastic Type.**—Poncet and Leriche continue their study of inflammatory affections of tuberculous origin. These may assume the form of torpid neoplasms, actual lipomata, the result of a mild inflammatory process induced by the tubercle bacillus. The lipoma within a joint, having a tree-like form—lipoma arborescens—he has found to be invariably the work of this bacillus.

44. **Serum Treatment of Bacillary Dysentery.**—Vaillard and Dopter relate favorable results from specific serum treatment of 213 patients with dysentery. In all but 20 cases no other treatment was attempted.

46. **Syphilis in the French Army.**—Delorme presents statistics to prove that in France and her colonies syphilis is far less prevalent among the soldiers than among the civilian population. The figures are from his own personal experience as well as that of others. He thinks that the soldier also learns during his term of military service to avoid syphilis later in life. Fournier's pamphlet, "For Our Sons When They are Eighteen," is distributed among the troops through the entire republic. Another means of prophylaxis is the frequent leave of absence granted the young soldiers. This allows them to return home often and keeps up the home influence and the family supervision over the young men. Preventive lectures and lantern talks are given from time to time, and attractive reading and lounging rooms are provided in the barracks to retain the men within the lines during their leisure hours. He adds that prostitutes past the age of 20, who commenced young, are generally immunized against syphilis and are less dangerous than the younger ones.

Revue de Gynécologie, Pozzi's, Paris.

Last indexed page 980.

48 (XI, No. 1, pp. 1-192.) *Tuberculosis in an Adenomyoma in the Uterus. (Tub. d'un Adénomyome.) J. L. Archambault and R. M. Pearce.
49 Cystic Tumefaction of the Ovaries with Hydatidiform Mole. (Tumef. kystique des ovaires.) M. Goullioud.
50 *Gynecology in Ancient Art. (La gyn. dans l'iconographie antique.) F. Regnault.
51 Blood Cyst in Kidney with Floating Spleen. (Enorme Kyste hematique du rein, d' origine néoplasique, avec rate flottante.) Gouget and Savariaud.
52 *Experimental Study of Exclusion and Resection of Large Intestine and Ileosigmoid Anastomosis. (Résection du gros intestin, etc.) P. Alglave.
53 Inflammation in Diverticula. (Les diverticulites.) S. Mercadé.
54 *Excision in Treatment of Certain Forms of Simple Gastric Ulcer. (Ulcère simple de l'estomac.) C. L. Gauthier and G. Rivière.

48.—This article appeared in THE JOURNAL, Sept. 8, 1906, page 768.

50. **Gynecology in Ancient Art.**—Regnault reproduces views of twenty-eight statuettes from the large number discovered at Smyrna in 1900, the find representing an actual museum of pathologic anatomy of more than 600 pieces. Those he has selected are all of female figures, representing specimens of obesity, visceral ptosis, emaciation, ulcerated, hypertrophied and withered breasts, etc., dropsy and myxedema. Several statuettes represent the pregnant woman. One picture shows a nursing bottle of the Alexandrian period. Regnault compares Hippocrates' descriptions with these pathologic specimens, some of the findings suggesting that the patients had been treated according to his directions. One statuette represents a woman whose abdomen had been opened above the umbilicus, too high for Cesarean section. Smyrna was celebrated for its medical school before the Christian era, and Galen studied there for a time about 147 A. D.

52. **Exclusion and Resection of Large Intestine.**—Alglave's article describing extensive research on dogs and pigs is illustrated to show the late effects on the animals of various operations on the large intestine, and the technic. The animals all became emaciated or died after unilateral subtotal exclusion or resection of the large intestine with ileosigmoidostomy. On the other hand, the animals bore without apparent injury resection of the ileocecal segment. Simple ileosigmoid anastomosis also proved harmless for dogs and pigs, both at the time and months later. Simple ileosigmoid anastomosis, however, always proved fatal for herbivorous animals, as also exclusion of the large intestine. Total exclusion of the large intestine, with an anus at the end of the small intestine, always entailed the death of the dogs in ten days and of the pigs in thirty—sooner than in death from starvation. Unilateral subtotal exclusion of the large intestine is followed by atrophy with retraction or with gaseous distension in the excluded portion. There is scarcely any anatomic change in the parts after ileosigmoid anastomosis.

54. **Excision in Treatment of Gastric Ulcer.**—Gauthier and Rivière report ten cases and expatiate on the advantages of excision of simple gastric ulcer. This alone, they declare, obviates all danger of hemorrhage, pain, perforation and malignant degeneration. It is contraindicated only in case of extensive adhesions to liver or pancreas and diffuse perigastritis. Pure and simple cicatricial ulcerative stenosis of the pylorus, however, indicates simple gastroenterostomy, which is here an actual orthopedic operation.

Berliner klinische Wochenschrift.

55 (XLIV, No. 11, pp. 297-328.) *Vomiting of Pregnancy. (Hyperemesis gravidarum.) K. Baisch.
56 Febrile Reaction to First Application of Mercury in Early Stage of Syphilis. (Fieberreaktion, etc., in der Syph.) H. Lindenheim.
57 *Katzenstein's Test of Force of Heart Action. (Prüfung der Herzkraft.) E. Hoke and J. Mende.
58 Protargol Salve in Promotion of Cicatrization. (Protargolsalbe und Narbenbildung.) R. Müller.
59 (No. 12, pp. 328-360.) *Placenta in Third Stage of Labor. (Placentärlosung.) M. Hofmeier.
60 Liver abscess with Typhoid Bacilli. (Leberabscess.) T. A. Venema.
61 *Significance of Pale Spirochete for Syphilitic Process. (Sp. pallida.) A. Blaschko.
62 Epidemic of Meat Poisoning. (Fleischvergiftung.) Jacobson.
63 *Chemo-therapeutic Studies of Trypanosomes. (Chemotherap., etc.) P. Ehrlich. Commenced in No. 9.

55. **Uncontrollable Vomiting of Pregnancy.**—Baisch reviews the experiences at Döderlein's clinic at Tübingen with twenty cases of uncontrollable vomiting in pregnant women. In three cases there was a history of chronic stomach trouble, and the vomiting was arrested in two by dietetic measures alone, restricting the patients to fluid foods. The third patient had become so debilitated that it was deemed dangerous to delay further and the pregnancy was interrupted. The vomiting ceased at once on removal of the ovum. In some cases of uncontrollable vomiting in previously healthy women, he states that there seems to be an overproduction in the ovum or uterus of some substance which induces vomiting. This uterine form of hyperemesis gravidarum requires, besides the dietetic measures, some medication to reduce the excitability of the vomiting center. Drugs that can be given subcutaneously should be preferred. As morphin is eliminated through the stomach mucosa and is thus liable to add to the tendency to vomit, he prefers scopolamin; he injects from 0.3 to 0.5 mg. (1/200 to 1/128 grain) once or twice a day. This depresses reflex excitability and thus opens the way for effectual dietetic treatment. Stimulation of diuresis and evacuation of the intestines are ensured by repeated copious enemas. The majority of cases of uncontrollable vomiting are those of central origin, and these, he says, are the most easily influenced. Absolute bed rest is the principal measure, and the ordering of a thermophor to the stomach or ice bag to the abdomen is a plausible excuse and ensures quiet reclining on the back. All food and fluids are prohibited during the first twenty-four hours. Thirst is assuaged by transfusion of physiologic salt solution. The patient is then given milk by the teaspoonful, ice cold, and the next day a little zwieback, tea or coffee, gruel or bouillon. Fluid foods should predominate and should be given in small quantities, not too often, and very gradually increasing the amounts allowed. The sensation of hunger is the first sure sign of commencing recovery. An abrupt change to ordinary food is liable to entail a discouraging relapse. If these measures fail, the patient must be removed at once to an institution where a hysteric tendency can be combated. Two of the 15 patients who belonged to this "central origin" group suffered from excessive salivation besides the incessant vomiting. Their condition soon became so grave that the pregnancy had to be arrested. The other 13 were cured by the rest and dietetic measures. The pregnancy was arrested in 5 of the total 20 cases of uncontrollable vomiting observed in an experience of 22,500 pregnant women during the last 5 years.

It was deemed unwise to allow the women to go too far without radical relief. Those who are allowed to become so debilitated by the uncontrollable vomiting as to reach the brink of the grave before relief is given, are exposed later to a series of dangers, not the least of which are tuberculosis and polyneuritis to which they are unable to oppose any resistance. In case of induced abortion two colleagues should be called in consultation, and the uterus emptied at one sitting, after introducing a thick laminaria tent in the cervix the night before. The whole ovum can then be readily removed with forceps with little hemorrhage and the manipulations on the uterus reduced to the minimum. The patient can generally eat a substantial meal the evening of the same day.

57. **Katzenstein's Test of Energy of Heart Action.**—This article reports unfavorable experiences with this method applied in fifty cases. The technic was described in these columns on page 997 of vol. xlvi, 1906.

59. **Removal of Placenta.**—Hofmeier believes in absolutely expectant treatment of the third stage of labor. With repeated control of the fundus of the uterus with the hand, he observes and waits. The loss of a quart of blood is the limit for expectant treatment, and he advises collecting the blood in a sterilized pan pushed under the patient immediately after delivery. Manual removal of the placenta should not be attempted until after failure of the Credé expression maneuver. General anesthesia is often of remarkable assistance in expression of the placenta, especially in case of obese and sensitive women, who react with reflex rigidity of the muscles to any forcible pressure. (In a case of fatal puerperal fever in which Hofmeier was recently summoned as an expert, the physician had not even attempted expression, saying that he regarded it as useless.) By following these principles Hofmeier has not had to resort to manual removal more than in 0.78 per cent. of his 9,000 obstetric cases. This includes some cases of early induced abortion which do not rightly belong in this category. He insists that rubber gloves should be used for all intrauterine maneuvers. He does not believe that it is possible to determine with absolute certainty whether the entire placenta has been expelled or not, without local examination, but he regards the retention of remains of the chorion and even of the entire chorion as comparatively unimportant—in any event, he states that it is of less moment for the patient than intrauterine examination immediately after the delivery. Repeated hemorrhages indicate local measures, but as a rule the retained fragments are loosened by the puerperal processes and are expelled with the lochia, sometimes entirely dissolved. Partial or complete retention of the chorion was observed in 56 out of 6,200 childbirths. While there was no rise in temperature in 43 cases, there was transient slight fever in 13, but in none was there any serious puerperal disturbance, and none required intrauterine intervention later. In his service every prospective parturient has the external genitals and the vagina thoroughly cleansed with soap and rinsed with an antiseptic solution, and he thinks that this is very important, although absolute asepsis is unattainable in these regions. When the physiologic processes of the third stage of labor absolutely fail to occur he thinks that there is no use in waiting longer than three or four hours before attempting manual removal. He adds that retained fragments of the placenta will not putrefy in the absence of infection. They should be removed at once, however, in already existent puerperal endometritis with fetid discharge.

61. **The Pale Spirochete in Syphilitic Processes.**—Blaschko presents evidence to show that the pale spirochete has the power of active movement and also that it can be transported by the lymph vessels as well as by the blood vessels. He states that the spirochetes in a primary syphilitic lesion are generally congregated at one spot.

63. **Chemo-Therapeutic Studies of Trypanosomes.**—A summary of Ehrlich's research in this line was given recently in an editorial on page 1778.

Centralblatt f. Chirurgie, Leipsic.

Last indexed, page 1385.

64 (XXXIII, Nos. 7-8, pp. 177-232.) *Parenchymatous Hemorrhage After Spinal Anesthesia. (Blutung nach Lumb.-An.) W. Kopfstein.

65 Apparatus for Extension. (Neue Extensionsvorrichtung.) P. Zander.

66 *Relations between Inflammation and Hypertrophy of the Prostate. (Prostatitis und Prost.-Hypertrophie.) B. Goldberg.

67 (Nos. 9-10, pp. 233-296.) Improved Technic for General Anesthesia. (Technik der Narkose.) C. Strauch.

68 Needle Cannula and Guide. (Leitnadelkanüle.) O. Sgambati (Rome).

69 *Harmless Clamp for Operations on Intestines. (Darmschliesser.) A. v. Mutach.

70 *Treatment of Pancreatic Fistula. (Pankreasfist.) R. Heineke

71 (Nos. 11-12, pp. 297-352.) Operative Treatment of Muscular Wryneck. (Musk. Schiefhals.) H. Doering.

72 Improved Knife for Cutting Thiersch Flaps. (Gedecktes Transplantations-Messer.) M. Hofmann.

73 Incision for Appendectomy, etc. (Schnittführung.) R. v. Baracz.

74 (Nos. 13-14, pp. 353-416.) *Pathologic Urine Findings after Stovain Spinal Anesthesia. (Urinbefunde nach Lumb.-An.) A. Schwarz.

75 *Improved Technic for Thiersch Flaps. (Technik der T. Transplantation.) K. Vogel.

76 Osteoplastic Amputation according to Sabanieff. (Amp. modo Sab.) Z. Radlinski.

77 *After-Treatment of Patients with Mammary Cancer. (Nachbehandlung, etc.) C. Ewald.

78 Appendix in Umbilical Hernia. (Wurmfortsatz in Nabelbruch.) R. Mühsam.

64. **Parenchymatous Hemorrhage After Spinal Anesthesia.**—Kopfstein injected 1 c.c. of tropacocain for spinal anesthesia before removal of a small callous ulcer on the stump of a leg. The skin of the legs became extremely red for a few minutes and the patient, a blacksmith of 54, complained of vertigo. An hour after the operation the man became very pale and unconscious; the blood poured from the soft parts and from the bone marrow of the leg as from a sponge, while the skin of both legs was a bright red. The hemorrhage resisted the usual measures, but finally was arrested by application of a thick layer of quinin and tamponing with iodoform gauze. The patient was an epileptic, and this fact may have had something to do with the vasomotor disturbance. Kopfstein has used spinal anesthesia in 100 cases. He abandoned eucain after a few experiences on account of the intense pain experienced by some of the patients in the field of operation, commencing a few hours afterward.

66. **Relations Between Inflammation and Enlargement of the Prostate.**—Goldberg has found only very rarely conditions suggesting enlargement of the prostate in patients with prostatitis. On the other hand, he found evidence of prostatitis in twenty out of fifty cases of unmistakable enlargement of the prostate. Unhealed gonorrhea, he thinks, is important in the etiology of enlargement in some cases, but the relation between them is not so close as some imagine. There was a history of venereal infection only in 25 per cent. of his fifty patients with enlargement. In a few rare cases of prostatitis in young men he found the prostate altered the same as in prostatic enlargement, but free from the objective disturbances of enlargement. Neurasthenia and hypochondria predominated in the clinical picture. In another small group he found symptoms of actual enlargement, retention of urine, residual urine, secondary infection of the urinary passages, etc. The prostate was small in some and moderately enlarged in others. He styles this group chronic cysto-paretic prostatitis, and he is convinced that many cases of what is called "soft enlargement of the prostate" in reality belong in this group, the only difference being that the patients are older men. The importance for prognosis and therapy of distinguishing between mere prostatitis and enlargement is obvious. In five cases he was able to express secretion from the prostate which demonstrated the existence of a primary prostatitis in men who had never had gonorrhea nor used the catheter. His experiences speak decidedly against the assumption that the prostate becomes enlarged only as a consequence of inflammatory processes.

69. **Intestinal Clamp.**—Mutach has modified the clamp used by women for crimping the hair, and has found it peculiarly adapted for clamping the intestines without injury of the tissues. He gives an illustration of its working.

70. **Treatment of Pancreatic Fistula.**—Heineke reports that he was able to heal a fistula into the pancreas in three days, merely by avoiding carbohydrates in the diet, and thus reducing the secretion of pancreatic juice to the minimum. His experience confirms in every respect that of Wohlgemuth and Karewsky, mentioned in THE JOURNAL, March 10, page 911.

and April 27, page 1466. His patient was a man of 34, whose pancreas was torn across in an accident. Four hours afterward the halves of the pancreas were united and sutured with catgut, and a tampon was applied over the suture, and the ends brought out through the gastrocolic ligament. On removal of the tampon a fistula was left through which pancreatic juice issued, as much as 500 c.c. a day. The fistula gradually grew smaller and healed the forty-third day after the operation. A few days later the fistula reopened and persisted for weeks. The patient on the eightieth day was put on a strict antidiabetes diet; the pancreatic secretion ceased at once almost entirely, and the fistula healed in three days. This "alimentary treatment" of bile and pancreatic fistulas can not be too strongly recommended, he adds.

74. **Signs of Nephritis in Urine After Spinal Anesthesia.**—Schwarz examined the urine in 50 cases after operation under spinal anesthesia induced with 0.04 gm. (2/3 grain) stovain. The urine invariably showed pathologic constituents, sometimes 4 hours and in others not until 2 or 3 days after the anesthesia. In some instances the urine was normal again in about 3 days; in others the tube casts and albumin persisted for a week or longer. In one case the pathologic findings continued through 3 weeks and as much as 7 per thousand of albumin was found daily. No indications of permanent injury of the kidneys were observed in any instance. The patients had all presented normal urine findings before the anesthesia. Schwarz urges others to examine the urine regularly after spinal anesthesia with this and other drugs to obtain better insight into this transient nephritis.

75. **Technic of Thiersch Transplantation.**—Vogel believes that he has solved the problem of keeping the transplanted flaps safe from injury while allowing free escape of the secretions. After the flaps are all in place, the edges just touching each other, he cuts with curved, sharp Cowper shears, a number of small windows in the flaps, so that two windows of about 2 sq. mm. each are in each sq. cm. of surface. A compress of four layers of gauze is then applied, moistened with physiologic salt solution, and fastened with narrow strips of adhesive plaster or a bandage. Over this a thicker, moist dressing is applied. The outer dressing is renewed every day, but the inner one is left for four days, after which the area is dressed with salve. The flaps heal smoothly in place with this technic, never being lifted up or necrosing. The little windows soon heal over, but while they last they allow free escape of the secretions under the moist dressing which prevents the drying of the secretions into an obstructing shell. The small amount of secretion that remains in the under dressing does no harm as it does not stagnate, but is constantly aspirated away by the thicker moist dressing above. This fenestration of the flaps prevents drying, stagnation and formation of blister-like accumulations of secretions under the flaps and in his cases healing was immeasurably promoted.

77. **After Removal of Mammary Cancer.**—Ewald gives an illustration of the device with which he protects his patients against stiffness of the shoulder and atrophy of the parts after removal of the breast for cancer. With other technics the woman for weeks and months is unable to comb her own hair, as a rule. He obviates this needless after disturbance by drawing up the hand and arm as if the patient were reaching up a little higher than her head as she sits up in bed. A wooden peg is held in the hand and a bandage around the hand and the ends of the peg is fastened like a sling to a horizontal support, extending at a right angle from an upright rod fastened to the head of the bed. The arm is further supported by a sling around the elbow. The patient is placed in this position at once after the operation, but after the third or fourth day the arm is lowered occasionally, as also when the patient gets up, but the arm is raised again when she is in bed. In two weeks after the operation the patient can use her hand and arm without difficulty. The cavities filled with blood or lymph which so frequently are observed in the axilla after such an operation are never seen with this technic, as the skin in the axilla is stretched taut against the bones beneath. The patients very seldom made any complaints, and in no instance did it ever become necessary to release the arm.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

79 (XXXIII, No. 15, pp. 577-616.) *Origin and Treatment of Human Tuberculosis. (Lungentub.) E. Klebs.
80 *Radiographic Findings in Apical Tuberculosis. (Lungenspitzentub.) W. Vierhuff.
81 *Digestive Hypersecretion of Gastric Juice. (Digestiver Magensaftfluss.) H. Strauss.
82 A Complex Hemolytic Substance in the Pancreas. (Hämolysin der Bauchspeicheldrüse.) U. Friedmann.
83 Functional Importance of the Leucocytes in the Circulating Blood on Various Diets. (Bedeutung der Leuk., etc.) W. Keuthe.
84 Double Iritis following Application of Cantharides Plaster Behind One Ear. (Wirkung der Canthariden.) R. Kowalewski.
85 *"Emotion Epilepsy." (Die Affektepilepsie.) Bratz and Leubuscher.
86 Advantages of Carbon Tetrachlorid as Solvent in Medicine in place of Benzin. (Tetrachlormethan als Lösungsmittel.) Wederhake.
87 *Report on von Bergmann's Last Illness. (Bericht über die Krankheit E. v. Bergmanns.) H. Schlange.

79. **Origin and Treatment of Human Tuberculosis.**—Klebs affirms among other things that pulmonary tuberculosis always originates in the bronchial glands; that tuberculosis is essentially a disease of the glands, and that it can be transmitted by inheritance. The elements of the sputum, he asserts, will reveal the tuberculous affection in the bronchial glands when it breaks through into the air passages. In this stage it is curable, as also when it is in the stage which some call "scrofula." When the lesion in the bronchial glands breaks through, the resulting invasion of the lungs with the tubercle bacilli entails weakness of the heart, requiring heart tonics.

80. **Radiographic Findings with Apical Tuberculosis.**—Vierhuff gives some skiagrams to illustrate different types of apical findings in case of a tuberculous lesion, asserting that the Roentgen rays will reveal the presence of thickening of the lung tissue before it is extensive enough to be detected by percussion or auscultation. Even when extensive, the skiagraphic findings are more exact than those of other methods.

81. **Digestive Gastrosuccorrhea.**—Strauss has studied this subject for twelve years and has observed the condition in about 100 patients. The symptoms resemble those of hyperacidity or the complaints of patients with stomach neurasthenia, and visceral ptosis is frequently encountered among the patients with this digestive—not continuous—hypersecretion of gastric juice. Boas' study of the subject was reviewed in THE JOURNAL, March 16, 1907, page 982. Strauss says that the only means for reliable diagnosis is by aspirating the stomach content to determine the emptiness of the fasting stomach, and again after a test breakfast. An unusually large proportion of fluids to the solid contents indicates gastrosuccorrhea. In treatment it is important to avoid mistaking the condition for motor insufficiency, and it is also important to determine the various factors that bring about the condition. The trouble is probably mainly due to abnormal irritability of the secretory apparatus. The dietetic measures should be approximately the same as for hyperacidity. The meals should be spaced and abundant, and in case of ptosis a supporting band should be worn, to prevent further descent of the stomach. Carlsbad or Vichy water, alkalies, little meat but abundance of butter and cream have a favorable influence on the hypersecretion, both the digestive and the continuous. A regular course of milk fats, butter and cream, promotes the secretory and motor functions of the stomach and absorption in the intestines. The patients gain in weight and the hypersecretion is regulated. The fact that certain patients have been relieved of all disturbances by treatment along these lines—although the stomach content remains practically the same—shows the importance of the excessive sensibility of the secretory apparatus as a factor in the condition along with the excess in secretion. He has succeeded in curing by the above measures many patients whose supposed "atony" of the stomach had long resisted treatment.

85. **Emotion Epilepsy.**—Bratz and Leubuscher have had occasion to observe for years 20 patients with what they call "Affektepilepsie," for which they claim a place apart. The patients have occasional attacks suggesting petit mal, but with characteristics of hysteria. These attacks develop under the influence of long continued emotional stress, and occur at times from early childhood onward. The persons affected are always those with a neuropathic inheritance, and they are distin-

guished by a peculiar pallor, evidently a vasomotor phenomenon. Like alcohol epilepsy, it never develops into genuine epilepsy.

87. **Report on von Bergmann's Last Illness.**—During the course of von Bergmann's last illness Schlange made an opening into the cecum to relieve the most distressing symptoms, and another opening into the colon on the left side two days later. Both were merely palliative operations and done under local anesthesia. Von Bergmann had long suffered from intestinal trouble which he ascribed to relics of severe dysentery during the Russo-Turkish campaign. On several occasions since then symptoms of ileus had developed, but had always been dispelled by high rectal injections. He wished to have the conditions examined postmortem; autopsy revealed stenosis of the colon at the splenic flexure with necrosis of the pancreas and diffuse purulent peritonitis, but no signs of cancer.

Münchener medizinische Wochenschrift.

88 (LIV, No. 13, pp. 601-648.) Deviation of Complement for Differentiation of Bacteria with Capsules. (Komplementablenkung zur Differenzierung von Kapselbazillen.) F. Ballner and H. Reibmayr.
89 *Early Anti-spirochete Treatment of Syphilis. (Frühbehandlung der Syph.) Thalmann.
90 The Alexander-Adams Operation. (Zur Alex.-Ad.'schen Op.) F. Spaeth.
91 *Paralysis of Ocular Muscles after Spinal Anesthesia. (Augenmuskellähmungen nach Lumbalanästhesien.) A. Ach.
92 *Cure of Cancer, etc., by Sunlight. (Sonnenlicht und unmittelbare Lichttherapie.) C. Widmer.
93 Aseptic Bandage after Childbirth. (Asept. Wochenbettbinde.) E. Rothschuh.

89. **Early Anti-Spirochete Treatment of Syphilis.**—Thalmann explains the course of syphilitic infection as follows: The spirochetes in the primary lesion die under the influence of mercury, and the endotoxins liberated by their destruction cause the production of a specific antibody. The immunity thus acquired gradually subsides, and the few spirochetes still left alive commence to proliferate once more as the specific antibodies cease to be produced or lose their efficacy. This series of events happens again and again, and explains the recurrence of the syphilitic manifestations. The effect of the endotoxins liberated from the bodies of the spirochetes is very injurious for certain cells. Individuals react differently in respect to production of the antibodies. Complete absence of this production may be the reason for the malignant course of the syphilis in some cases. The fetal organism is unable to produce the antibodies and the placenta does not allow their passage from the mother. This, he asserts, is why congenital syphilis is so serious in its effects. The endotoxins liberated by destruction of spirochetes in the fetus may pass to the mother and induce active immunity in her—this is his explanation of Colles' law. Reasoning on the above premises, Thalmann assumes that rational treatment of syphilis consists in destroying the spirochetes when they first invade the body, before they have had a chance to proliferate, but are still congregated mostly at the primary lesion. Prompt mercurial treatment kills them off, and the endotoxins liberated are small in amount, compared with those liberated when the organism is swarming with spirochetes. This first course of mercurial treatment should be followed by another course when close supervision of the patient shows that the immunity has reached such a low ebb that the spirochetes are commencing to proliferate again, as shown by the development of a secondary lesion. He describes a number of patients treated on these principles, the results being strikingly corroborative of the assumed premises. More than 30 per cent. of the patients have shown no general symptoms during over six months which have elapsed, and in the others the secondary phenomena were restricted to a single focus or a few mild foci, none ever on the genitalia. At the first discovery of spirochetes in the primary lesion he commences mercurial treatment with inunctions supplemented by local injections of 0.5 c.c. of a 1 per cent. solution of corrosive sublimate directly into the primary lesion, with or without application of a mercurial salve to the nose. As a rule, no further manifestations of syphilis develop, but if such are observed they follow much sooner than usual, within from six to twelve weeks. When they appear they are much less pronounced and are fewer in number than usual. The metastatic affection was in the tonsil in the majority of cases, and on the back, big toe or in the mouth in the others. The first appearance of the secondary lesion is the signal for renewal of mercurial treatment to kill off the spirochetes before they have again had a chance to proliferate. It is of the utmost importance, therefore, to keep the patients under constant control. Treatment should be both general and local, and the results are always better when treatment is instituted early; its effect is enhanced by the traces of immunity still persisting. Another advantage of this early treatment is that the secondary manifestations spare the points previously treated with mercury, and, according to experience to date, do not develop on the genitals. One of the patients with recent syphilis and recurring secondary lesions in his mouth at different times during the course of a year did not infect his wife, and she bore him a healthy child at the end of the year, only twelve months after his primal infection. The child and mother are both healthy to date. Thalmann gives potassium iodid with the mercury to aid absorption and elimination of the products of inflammation. He does not give it during the last week of the course of mercury, as he wishes the latter to be retained instead of rapidly eliminated. He concludes with the assertion that this technic of early, anti-spirochete treatment of syphilis is the only rational method, and that its benefits will become more and more apparent as the years pass.

91. **Paralysis of Ocular Muscles After Spinal Anesthesia.**—Ach had occasion to observe 4 cases of abducent paresis in 400 applications of spinal anesthesia. He reviews 15 other cases recorded in the literature, and advocates small doses of the anesthetic, very much diluted, and avoidance of stovain which seems to act most strongly on the motor nerves. He adds that the patient must invariably lie down afterward, with the shoulders raised.

92. **Cure of Carcinoma, etc., Under Exposure to Sunlight.**—Widmer reports a number of cases of ulcerating chilblains, leg ulcers, suppurating glands in the neck, tuberculous fistulas, multiple decubitus with a spinal affection, eczema, herpes tonsurans, etc., all of which healed rapidly under direct exposure to the sunlight for from one to three hours a day. The most interesting case was that of a woman of 81 with a clinically diagnosed carcinoma on the back of one hand. Operative treatment was rejected, but the hand was exposed daily to the sunlight for several hours, from January to April. By the middle of April not a trace was left of the neoplasm which in December had measured 6 cm. long and protruded to a height of several cm., covered with a fetid discharge. The place formerly occupied by the tumor showed a pink, child-like skin, that could be lifted up from the tissues below. A year has since passed without a trace of recurrence. Widmer practices in a mountainous region.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

MANUAL OF ANATOMY, Systematic and Practical, Including Embryology. By A. M. Buchanan, M.A., M.D., C.M., F.F.P.S., Glas., Professor of Anatomy in Anderson's College, Glasgow. Vol. II. With 363 Illustrations, Mostly Original and in Colors. Buckram. Pp. 1539. Price, $2.75 net. Chicago: W. T. Keener & Co., 1907.

DISEASES OF THE RECTUM AND ANUS, Including the Fifth Edition of the Jacksonian Prize Essay on Cancer. By Harrison Cripps, F.R.C.S., Senior Surgeon, St. Bartholomew's Hospital. Third Edition. Cloth. Pp. 588. Price, $4.20 net. London, J. & A. Churchill; Philadelphia: P. Blakiston's Son & Co., 1907.

PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION at the Fifty-fourth Annual Meeting, held at Indianapolis, Ind., September, 1906. Also the constitution, by-laws and roll of members. Cloth. Pp. 1080. Baltimore: American Pharmaceutical Association, 1906.

TWENTY-NINTH ANNUAL REPORT of the Board of Health of the City of Augusta, Georgia, for the Year 1906. Paper. Pp. 78. Augusta: Phoenix Printing Co., 1907.

ANNUAL REPORT OF THE BOARD OF HEALTH of the City of Winona, Minnesota, for the Year Ending March 31, 1907. Paper. Pp. 15. Winona: Joseph Leicht.

MONTHLY SUMMARY OF COMMERCE AND FINANCE of the United States for March, 1907. Paper. Washington: Government Printing Office, 1907.

TWELFTH ANNUAL REPORT of the John Crerar Library, for the Year 1906. Paper. Pp. 64. Chicago: Board of Directors, 1907.